



# ***STIC Search Report***

**EIC 1700**

**STIC Database Tracking Number: 148799**

**TO: Ben Sackey  
Location: REM 5B1  
Art Unit : 1626  
March 31, 2005**

**Case Serial Number: 10/725167**

**From: Kathleen Fuller  
Location: EIC 1700  
REMSSEN 4B28  
Phone: 571/272-2505  
Kathleen.Fuller@uspto.gov**

## **Search Notes**

Access DB# 148799

# SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: BEN SACKY Examiner #: 73489 Date: 3/24/05  
Art Unit: 1626 Phone Number 302-0704 Serial Number: 10/725, 167  
Mail Box and Bldg/Room Location: REM 531 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Novel Surfactants  
Inventors (please provide full names): Thillo et al.

Earliest Priority Filing Date: 6/6/03

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Compounds of formulae (I) and (II) and  
process of preparing them.

## STAFF USE ONLY

Searcher: <u>K. Fuller</u>	Type of Search	Vendors and cost where applicable
Searcher Phone #:	NA Sequence (#)	STN <input checked="" type="checkbox"/>
Searcher Location:	AA Sequence (#)	Dialog
Date Searcher Picked Up:	Structure (#) <u>1</u>	Questel/Orbit
Date Completed: <u>3/31/05</u>	Bibliographic	Dr.Link
Searcher Prep & Review Time: <u>20</u>	Litigation	Lexis/Nexis
Clerical Prep Time:	Fulltext	Sequence Systems
Online Time: <u>20</u>	Patent Family	WWW/Internet
	Other	Other (specify)

=> FILE REG

FILE 'REGISTRY' ENTERED AT 16:30:38 ON 31 MAR 2005  
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Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 30 MAR 2005 HIGHEST RN 847643-36-1  
DICTIONARY FILE UPDATES: 30 MAR 2005 HIGHEST RN 847643-36-1

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when  
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\*\*\*\*\*  
\*  
\* The CA roles and document type information have been removed from \*  
\* the IDE default display format and the ED field has been added, \*  
\* effective March 20, 2005. A new display format, IDERL, is now \*  
\* available and contains the CA role and document type information. \*  
\*  
\*\*\*\*\*

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more  
information enter HELP PROP at an arrow prompt in the file or refer  
to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> FILE HCAPLUS

FILE 'HCAPLUS' ENTERED AT 16:30:44 ON 31 MAR 2005  
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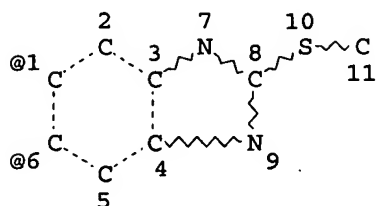
FILE COVERS 1907 - 31 Mar 2005 VOL 142 ISS 14  
FILE LAST UPDATED: 30 Mar 2005 (20050330/ED)

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

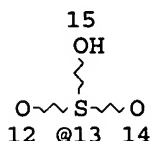
=> D QUE

L10 STR

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505



*64 structures from the query*



VPA 13-1/6 U

NODE ATTRIBUTES:

CONNECT IS E2 RC AT 10

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE

L12 64 SEA FILE=REGISTRY SSS FUL L10

L13 51 SEA FILE=HCAPLUS ABB=ON L12

L15 12 SEA FILE=HCAPLUS ABB=ON L13 (L) PREP/RL

*51 CA references*

*12 CA references on preparation*

=> D L15 BIB ABS IND HITSTR 1-12

L15 ANSWER 1 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:1054334 HCAPLUS

DN 142:45820

TI Surfactants for use in light-insensitive thermographic recording materials

IN Defieuw, Geert; Loccufier, Johan; Van Steen, Luc; Van Thillo, Etienne

PA Agfa-Gevaert, Belg.

SO Eur. Pat. Appl., 37 pp.

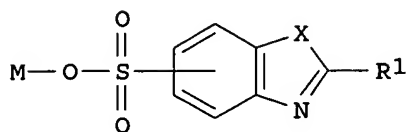
CODEN: EPXXDW

DT Patent

LA English

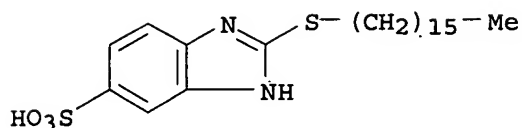
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1484640	A1	20041208	EP 2003-101662	20030606
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	US 2005053871	A1	20050310	US 2003-601361	20030623
	JP 2004358934	A2	20041224	JP 2003-181230	20030625
PRAI	EP 2003-101662	A	20030606		
OS	MARPAT 142:45820				
GI					



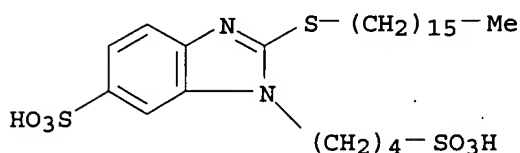
I

- AB A substantially light-insensitive monosheet thermog. recording material comprises a support and on one side of said support a thermosensitive element, wherein said thermog. recording material contains at least one compound represented by the formula I: (M = H, alkali, ammonium; R<sub>1</sub> = alkyl, alkenyl-, alkynyl-, thioalkyl-, thioalkenyl-, thioalkynyl-, in which the alkyl-, alkenyl- or alkynyl- group has 6-25 carbons; X = -O-, -S-, -N(R<sub>2</sub>)-; R<sub>2</sub> = H, -(CH<sub>2</sub>)<sub>m</sub>SO<sub>3</sub>M, CH<sub>2</sub>-C<sub>6</sub>H<sub>6</sub>-SO<sub>3</sub>M; m = 1-5). The object of the present invention is to provide substantially light-insensitive thermog. recording materials containing alternative photog. inactive surfactants, which enhances the adhesion of hydrophilic layers to hydrophobic supports, has no photog. active impurities and is compatible with image-wise heating with a thermal head when incorporated into the outermost layer.
- IC ICM G03C001-498
- CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST surfactant thermog photothermog recording material
- IT Photographic films  
(heat-developable; surfactants for use in light-insensitive thermog. recording materials)
- IT Surfactants  
(surfactants for use in light-insensitive thermog. recording materials)
- IT 805237-08-5 805237-12-1  
RL: TEM (Technical or engineered material use); USES (Uses)  
(surfactant; mixture containing; surfactants for use in light-insensitive thermog. recording materials)
- IT 793668-03-8 805237-09-6 805237-58-5 805237-59-6 805237-60-9  
RL: TEM (Technical or engineered material use); USES (Uses)  
(surfactant; surfactants for use in light-insensitive thermog. recording materials)
- IT 743423-33-8P 805237-10-9P 805237-11-0P  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(surfactants for use in light-insensitive thermog. recording materials)
- IT 112-82-3, Cetyl bromide 1633-83-6, Butanesultone 53918-03-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(synthesis of surfactants for use in light-insensitive thermog. recording materials)
- IT 743423-33-8P 805237-10-9P 805237-11-0P  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(surfactants for use in light-insensitive thermog. recording materials)
- RN 743423-33-8 HCAPLUS
- CN 1H-Benzimidazole-5-sulfonic acid, 2-(hexadecylthio)-, monosodium salt (9CI) (CA INDEX NAME)



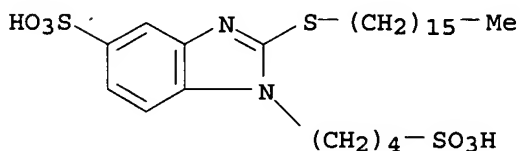
● Na

RN 805237-10-9 HCAPLUS  
CN 1H-Benzimidazole-1-butanesulfonic acid, 2-(hexadecylthio)-6-sulfo-,  
disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 805237-11-0 HCAPLUS  
CN 1H-Benzimidazole-1-butanesulfonic acid, 2-(hexadecylthio)-5-sulfo-,  
disodium salt (9CI) (CA INDEX NAME)



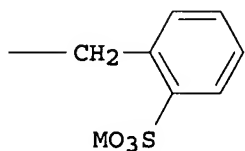
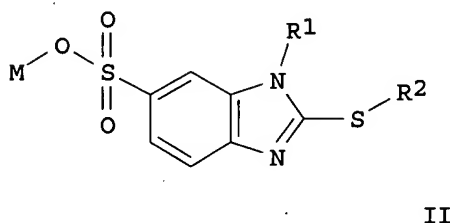
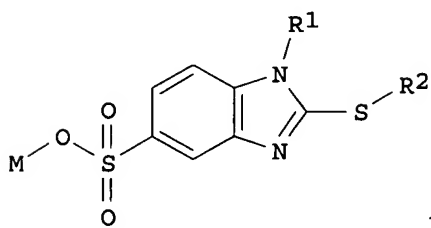
●2 Na

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 2 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2004:691447 HCAPLUS  
DN 141:215717  
TI Surfactants for photographic material  
IN Van Thillo, Etienne; Loccufier, Johan; Andries, Hartwig  
PA Agfa-Gevaert, Belg.  
SO U.S., 15 pp.  
CODEN: USXXAM  
DT Patent  
LA English  
FAN.CNT 1

*applicants*

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6780576	B1	20040824	US 2003-601788	20030623
	EP 1484323	A1	20041208	EP 2003-101661	20030606
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	JP 2004359649	A2	20041224	JP 2003-186994	20030630
	US 2004249166	A1	20041209	US 2003-725167	20031201
PRAI	EP 2003-101661	A	20030606		
	US 2003-601788	A3	20030623		
OS	MARPAT 141:215717				
GI					



AB The present invention relates to a compound represented by formula I or II (M = H, alkali atom or an ammonium group; R1 = H, -(CH2)mSO3M group, III; R2 = alkyl, alkenyl, C6-25 alkynyl; m = 1-5) or a mixture of at least one compound represented by formula I with at least one compound represented by formula II; the use of as a surfactant; and a photog. material comprising a support and a layer containing photosensitive silver halide, characterized in that the photog. material contains at least one compound represented by the above-mentioned formula I, at least one compound represented by the above-mentioned formula II or a mixture of at least one compound represented by the above-mentioned formula I and at least one compound represented by the above-mentioned formula II.

IC ICM G03C001-38

ICS G03C001-91; C07D235-28

NCL 430523000; 430535000; 430536000; 430537000; 430636000; 548307100

CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST surfactant photog support emulsion

IT Photographic emulsions

Surfactants

(surfactants for photog. material)

IT 112-82-3, Cetyl bromide 53918-03-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of surfactants for photog. material)

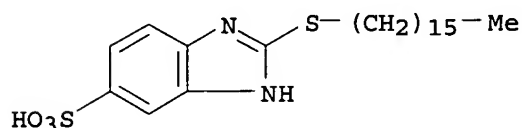
IT 743423-33-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (preparation of surfactants for photog. material)

IT 743423-34-9P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (surfactants for photog. material)

IT 743423-30-5 743423-31-6  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (surfactants for photog. material)

IT 743423-33-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (preparation of surfactants for photog. material)

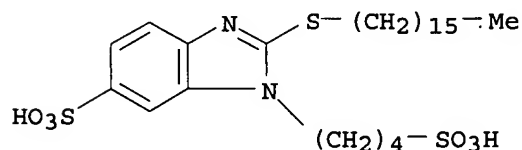
RN 743423-33-8 HCAPLUS  
 CN 1H-Benzimidazole-5-sulfonic acid, 2-(hexadecylthio)-, monosodium salt (9CI) (CA INDEX NAME)



● Na

IT 743423-34-9P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (surfactants for photog. material)

RN 743423-34-9 HCAPLUS  
 CN 1H-Benzimidazole-1-butanesulfonic acid, 2-(hexadecylthio)-6-sulfo-, monosodium salt (9CI) (CA INDEX NAME)



● Na

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

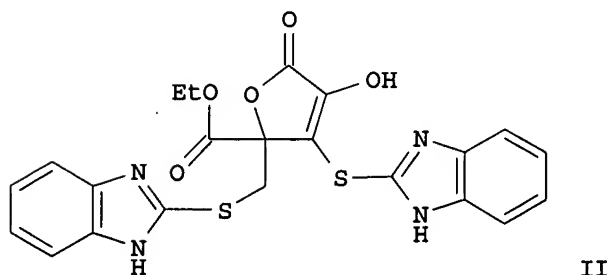
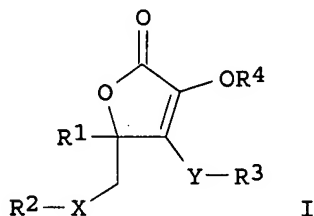
L15 ANSWER 3 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2004:120569 HCAPLUS  
 DN 140:181315

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505



TI Preparation of furanones as cytoprotectants for dermatologic conditions  
 IN Boddupalli, Sekhar; Walkinshaw, Gail; Wang, Bing  
 PA USA  
 SO U.S. Pat. Appl. Publ., 66 pp., Cont.-in-part of U.S. Ser. No. 354,474.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004029812	A1	20040212	US 2003-630170	20030730
	US 2003176361	A1	20030918	US 2003-354474	20030128
	US 6667330	B2	20031223		
	WO 2005016340	A1	20050224	WO 2004-US24491	20040728
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI	US 2002-353939P	P	20020131		
	US 2003-354474	A2	20030128		
	US 2003-630170	A	20030730		
OS	MARPAT 140:181315				
GI					



AB Title compds. I [R1 = CO2R', CONR'R'', CH2OR''', CN, (un)substituted heterocyclyl, heterocyclylalkyl, heteroaryl, heteroaralkyl; R2, R3 = independently (un)substituted alkyl, cycloalkyl, aryl, aralkyl,

heterocyclyl, heteroaryl, heteroaralkyl, nucleoside, amino acid, di-, tri- or tetra-peptide; R<sub>4</sub> = H, alkyl, alkylcarbonyl, (poly)alkoxyalkylene, dialkoxyphosphoryloxy; X = alkylene, NR', S, SO, SO<sub>2</sub>; or XR<sub>2</sub> = PO(OR')<sub>2</sub>; Y = NR', S, SO, SO<sub>2</sub>; or YR<sub>3</sub> = PO(OR')<sub>2</sub>; or XR<sub>2</sub>YR<sub>3</sub> = (un)substituted aliphatic or aromatic ring; R' = H, alkenyl, (un)substituted alkyl, cycloalkyl, phosphoryl, aryl; R'' = H, alkenyl, (un)substituted alkyl, aryl; or R'R'' = atoms that form (un)substituted 5-7 membered aryl, heteroaryl ring; R''' = H, alkenyl, (un)substituted alkyl, acyl, cycloalkyl, phosphoryl, aryl; and their single tautomers, single stereoisomers, mixts. of tautomers and/or stereoisomers, and pharmaceutically acceptable salts] were prepared as cytoprotectants for treating dermatol. conditions. For example, II was prepared by reaction of 2-mercaptobenzimidazole with Et bromopyruvate in ethanol/acetone and aldol condensation of the two tautomeric forms of the pyruvate intermediate. Selected invention compds. showed significant reduction in edema in assays assessing mouse ear inflammatory response to topical arachidonic acid (10% to 70%, p < 0.05). Results from various assays were disclosed for selected invention compds. Thus, I and their pharmaceutical formulations are useful for regulating skin condition, regulating the signs of skin aging or for treating contact dermatitis, skin irritation, acne, rosacea, psoriasis, age-related damage or damage resulting from harmful (UV) radiation or environmental pollution, stress or fatigue.

- IC ICM A61K038-06
- ICS A61K038-05; A61K038-04; A61K031-541; A61K031-496; A61K031-5377;  
A61K031-452; A61K031-427; A61K031-421; A61K031-4178; A61K031-4025;  
A61K031-365
- NCL 514018000; 514217030; 514227800; 514231500; 514254100; 514326000;  
514365000; 514374000; 514397000; 514422000
- CC 27-6 (Heterocyclic Compounds (One Hetero Atom))  
Section cross-reference(s): 1, 34, 63
- ST furanone prepn formulation cytoprotectant dermatol skin condition  
dermatitis
- IT Skin, disease  
(aging; preparation of furanone cytoprotectants via aldol condensation for  
treatment of dermatol. conditions)
- IT Androgens  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(antiandrogens, co-administration; preparation of furanone cytoprotectants  
via aldol condensation for treatment of dermatol. conditions in  
combination with addnl. benefit agents)
- IT Ischemia  
(cardiac, myocardial; preparation of furanone cytoprotectants via aldol  
condensation for treatment of dermatol. conditions)
- IT Cytoprotective agents  
(cardioprotective; preparation of furanone cytoprotectants via aldol  
condensation for treatment of dermatol. conditions)
- IT Ischemia  
(cerebral; preparation of furanone cytoprotectants via aldol condensation  
for treatment of dermatol. conditions)
- IT Anti-inflammatory agents  
Antibiotics  
Antioxidants  
Sunscreens  
(co-administration; preparation of furanone cytoprotectants via aldol  
condensation for treatment of dermatol. conditions in combination with  
addnl. benefit agents)
- IT Corticosteroids, biological studies  
Retinoids  
Vitamins  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(co-administration; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions in combination with addnl. benefit agents)

- IT Dermatitis  
(contact; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)
- IT Heart, disease  
(failure; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)
- IT Carboxylic acids, biological studies  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(hydroxy, co-administration; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions in combination with addnl. benefit agents)
- IT Heart, disease  
(infarction; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)
- IT Skin, disease  
(irritation; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)
- IT Heart, disease  
(ischemia, myocardial; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)
- IT Brain, disease  
(ischemia; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)
- IT Cytoprotective agents  
(neuroprotective; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)
- IT Acne  
Anti-ischemic agents  
Cytoprotective agents  
Dermatitis  
Drug delivery systems  
Edema  
Inflammation  
Psoriasis  
Skin, disease  
Skin preparations (pharmaceutical)  
(preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)
- IT Interleukin 1 $\beta$   
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)
- IT Skin, disease  
(rosacea; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)
- IT 59-02-9,  $\alpha$ -Tocopherol 59-02-9D,  $\alpha$ -Tocopherol, esters  
69-72-7, Salicylic acid, biological studies 94-36-0, Benzoyl peroxide, biological studies 119-13-1,  $\delta$ -Tocopherol 119-13-1D,  $\delta$ -Tocopherol, esters 148-03-8,  $\beta$ -Tocopherol 148-03-8D,  $\beta$ -Tocopherol, esters 7616-22-0,  $\gamma$ -Tocopherol 7616-22-0D,  $\gamma$ -Tocopherol, esters  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(co-administration; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions in combination with addnl. benefit agents)
- IT 577952-58-0P 577952-60-4P 577952-61-5P  
RL: PAC (Pharmacological activity); PEP (Physical, engineering or chemical

process); PYP (Physical process); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT 577952-47-7P 577952-51-3P 577952-69-3P 577952-70-6P 577952-71-7P 577952-97-7P

RL: PAC (Pharmacological activity); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT 577952-57-9P 577952-80-8P, 4-Hydroxy-5-oxo-3-(2-furanylmethylsulfanyl)-2-[(2-furanylmethylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-84-2P, 4-(1H-Benzimidazol-2-ylsulfanyl)-5-[(1H-benzimidazol-2-ylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one

RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT 577952-48-8P, 3-(3-Amino-[1,2,4]thiadiazol-5-ylsulfanyl)-2-(((3-amino-[1,2,4]thiadiazol-5-yl)sulfanyl)methyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-49-9P, 3-(3-Amino-[1,2,4]thiadiazol-5-ylsulfanyl)-2-(((3-amino-[1,2,4]thiadiazol-5-yl)sulfanyl)methyl)-4-hydroxy-

5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester, trimethylamine salt 577952-50-2P, 3-((5-Amino-2H-[1,2,4]triazol-3-yl)sulfanyl)-2-(((5-amino-2H-[1,2,4]triazol-3-yl)sulfanyl)methyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-

carboxylic acid ethyl ester 577952-52-4P, 4-Hydroxy-5-oxo-3-(5-phenyl-[1,3,4]oxadiazol-2-ylsulfanyl)-2-(5-phenyl-[1,3,4]oxadiazol-2-ylsulfanylmethyl)-2,5-dihydrofuran-2-carboxylic acid ethyl ester

577952-53-5P, 3-(5-Chlorobenzothiazol-2-ylsulfanyl)-2-[(5-chlorobenzothiazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-

carboxylic acid ethyl ester 577952-54-6P, 4-Hydroxy-3-(5-methoxy-1H-benzimidazol-2-ylsulfanyl)-2-[(5-methoxy-1H-benzimidazol-2-

ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-55-7P, 4-Hydroxy-5-oxo-3-(p-tolylsulfanyl)-2-(p-

tolylsulfanylmethyl)-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-56-8P 577952-62-6P 577952-63-7P 577952-64-8P 577952-65-9P

577952-66-0P 577952-67-1P 577952-72-8P 577952-73-9P, 4-Hydroxy-5-oxo-3-(pyridin-4-ylsulfanyl)-2-[(pyridin-4-ylsulfanyl)methyl]-

2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-74-0P, 5,8-Dichloro-3-hydroxy-2-oxo-2H-1-oxa-4,9-dithiabenzof[azulene]-10a-

carboxylic acid ethyl ester 577952-75-1P, 3-(1H-Benzimidazol-2-ylsulfanyl)-2-[(1H-benzimidazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-

dihydrofuran-2-carboxylic acid 577952-76-2P, 3-(Benzothiazol-2-ylsulfanyl)-2-[(benzothiazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-

dihydrofuran-2-carboxylic acid (2-hydroxyethyl)amide 577952-78-4P, 3-(Benzothiazol-2-ylsulfanyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-

carboxylic acid 577952-79-5P, 4-(Furan-2-ylmethylsulfanyl)-5-[(furan-2-ylmethylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one

577952-81-9P, 4-(2,2-Dimethylpropionyloxy)-3-(furan-2-ylmethylsulfanyl)-2-[(furan-2-ylmethylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic

acid ethyl ester 577952-82-0P 577952-83-1P 577952-85-3P, 4-(1H-Benzimidazol-2-ylsulfanyl)-5-[(1H-benzimidazol-2-ylsulfanyl)methyl]-

3-hydroxy-5-(thiazol-2-yl)-5H-furan-2-one 577952-86-4P, 3-(Benzothiazol-2-ylsulfanyl)-2-[(benzothiazol-2-ylsulfanyl)methyl]-4-

hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid 577952-87-5P, 3-(2-Chloro-4-fluorophenylsulfanyl)-2-[(2-chloro-4-

fluorophenylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic

acid ethyl ester 577952-88-6P 577952-89-7P, 4-(Benzoxazol-2-ylsulfanyl)-5-[(benzoxazol-2-ylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one 577952-90-0P, 4-(5-Chlorobenzothiazol-2-ylsulfanyl)-5-[(5-chlorobenzothiazol-2-ylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one 577952-91-1P, 4-(Benzothiazol-2-ylsulfanyl)-5-[(benzothiazol-2-ylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one 577952-92-2P, 3-(2-Chloro-6-fluorobenzylsulfanyl)-2-[(2-chloro-6-fluorobenzylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-93-3P, 3-(5,6-Dichloro-1H-benzimidazol-2-ylsulfanyl)-2-[(5,6-dichloro-1H-benzimidazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-94-4P, 4-Hydroxy-3-(5-methoxybenzothiazol-2-ylsulfanyl)-2-[(5-methoxybenzothiazol-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-95-5P, 3-(2,4-Dichlorobenzylsulfanyl)-2-[(2,4-dichlorobenzylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-96-6P, 2-[(Benzothiazol-2-ylsulfanyl)methyl]-3-(benzothiazol-2-ylsulfanyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-98-8P, 4-Hydroxy-3-(6-nitrobenzothiazol-2-ylsulfanyl)-2-[(6-nitrobenzothiazol-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-99-9P, 2-[(1H-Benzimidazol-2-ylsulfanyl)methyl]-4-ethoxy-3-(1-ethyl-1H-benzimidazol-2-ylsulfanyl)-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-00-5P, 3-[Furan-2-ylmethanesulfinyl]-2-[(furan-2-ylmethanesulfinyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-01-6P, 2-[(Furan-2-ylmethanesulfinyl)methyl]-3-(furan-2-ylmethanesulfonyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-02-7P, 4-Hydroxy-3-methylsulfanyl-2-methylsulfanylmethyl-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-03-8P, 3-(5-Amino-[1,3,4]thiadiazol-2-ylsulfanyl)-2-[(5-amino-[1,3,4]thiadiazol-2-yl)sulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid 577953-04-9P, 3-(Benzoxazol-2-ylsulfanyl)-2-[(benzothiazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid methyl ester 577953-05-0P 577953-06-1P 577953-07-2P, 3-(Furan-2-ylmethylsulfanyl)-2-[(furan-2-ylmethylsulfanyl)methyl]-4-isobutanoyloxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-08-3P, 4-(2,2-Dimethylpropanoyloxy)-3-ethoxycarbonylmethylsulfanyl-2-[(ethoxycarbonylmethylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-09-4P, 4-Hydroxy-5-oxo-3-(4-phenylthiazol-2-ylsulfanyl)-2-[(4-phenylthiazol-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-10-7P, 3-(2-Dimethylaminoethylsulfanyl)-2-[(2-dimethylaminoethylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid 577953-11-8P, 4-Hydroxy-3-[(1-methyl-1H-imidazol-2-yl)sulfanyl]-2-[(1-methyl-1H-imidazol-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-12-9P, 3-Cyclopentylsulfanyl-2-cyclopentylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-13-0P, 3-Butylsulfanyl-2-butylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-14-1P, 4-Hydroxy-3-isobutylsulfanyl-2-isobutylsulfanylmethyl-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-15-2P, 4-Hydroxy-3-(naphthalen-2-ylsulfanyl)-2-[(naphthalen-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-16-3P, 4-Hydroxy-5-oxo-3-[(1-phenyl-1H-tetrazol-5-yl)sulfanyl]-2-[[1-phenyl-1H-tetrazol-5-yl)sulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-17-4P, 4-Hydroxy-5-oxo-3-[(5-phenyl-2H-[1,2,4]triazol-3-yl)sulfanyl]-2-[(5-phenyl-2H-[1,2,4]triazol-3-yl)sulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-18-5P, 4-Hydroxy-5-oxo-3-(thiazol-2-ylsulfanyl)-2-[(thiazol-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-19-6P, 3-Benzylsulfanyl-2-benzylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-20-9P,

4-Hydroxy-3-(4-methoxyphenylsulfanyl)-2-[(4-methoxyphenylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-21-0P,  
 3-(2-Chlorophenylsulfanyl)-2-[(2-chlorophenylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-22-1P,  
 3-(Benzothiazol-2-ylsulfanyl)-2-[(benzothiazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-23-2P,  
 3-(Benzoxazol-2-ylsulfanyl)-2-[(benzoxazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-24-3P,  
 4-Hydroxy-5-oxo-3-(4-trifluoromethylpyrimidin-2-ylsulfanyl)-2-[(4-trifluoromethylpyrimidin-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-25-4P,  
 4-Hydroxy-3-(4-methylpyrimidin-2-ylsulfanyl)-2-[(4-methylpyrimidin-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-26-5P,  
 4-Hydroxy-5-oxo-3-(pyrimidin-2-ylsulfanyl)-2-[(pyrimidin-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-27-6P,  
 4-Hydroxy-5-oxo-3-(2-sulfo-ethylsulfanyl)-2-[(2-sulfo-ethylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-28-7P,  
 4-Hydroxy-5-oxo-3-(7-trifluoromethylquinolin-4-ylsulfanyl)-2-[(7-trifluoromethylquinolin-4-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-29-8P 577953-30-1P  
 577953-31-2P, 3-Cyclohexylsulfanyl-2-cyclohexylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-32-3P,  
 4-(Benzothiazol-2-ylsulfanyl)-5-benzoyl-3-hydroxy-5H-furan-2-one 577953-33-4P,  
 3-(1H-Benzimidazol-2-ylsulfanyl)-4-hydroxy-5-oxo-5H-furan-2,2-dicarboxylic acid diethyl ester 577953-34-5P,  
 5-Acetyl-4-(benzothiazol-2-ylsulfanyl)-3-hydroxy-5H-furan-2-one 577953-35-6P,  
 3-Benzylsulfanyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-36-7P,  
 4-Hydroxy-3-(5-methyl-1H-benzimidazol-2-ylsulfanyl)-5-oxo-2,5-dihydrofuran-2-carboxylic acid 2-isopropyl-5-methylcyclohexyl ester 577953-37-8P 577953-38-9P,  
 3-(Benzoselenazol-2-ylsulfanyl)-2-[(benzoselenazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-39-0P,  
 4-Hydroxy-5-oxo-3-(4-phenylthiazol-2-ylsulfanyl)-2,5-dihydrofuran-2-carboxylic acid 577953-40-3P 577953-41-4P,  
 4-Hydroxy-5-oxo-3-(9H-purin-6-ylsulfanyl)-2-[(9H-purin-6-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-42-5P 577953-43-6P,  
 4-Hydroxy-3-(1H-imidazol-2-ylsulfanyl)-2-[(1H-imidazol-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-44-7P,  
 3-(2-Diethylaminoethylsulfanyl)-2-[(2-diethylaminoethylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-45-8P,  
 3-(1H-Benzimidazol-2-ylsulfanyl)-2-[(1H-benzimidazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid methyl ester 577953-46-9P,  
 3-(2-Dimethylaminoethylsulfanyl)-2-[(2-dimethylaminoethylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester hydrochloride 577953-47-0P,  
 4-Hydroxy-3-(2-methoxycarbonyl-ethylsulfanyl)-2-[(2-methoxycarbonyl-ethylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-48-1P,  
 4-Hydroxy-3-(methoxycarbonylmethylsulfanyl)-2-[(methoxycarbonylmethylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-49-2P,  
 3-(5-Amino-[1,3,4]thiadiazol-2-ylsulfanyl)-2-[(5-amino-[1,3,4]thiadiazol-2-yl)sulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-50-5P,  
 3-(1H-Benzimidazol-2-ylsulfanyl)-2-[(1H-benzimidazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-51-6P,  
 3-(4-Fluorobenzylsulfanyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2,2-dicarboxylic acid diethyl ester 577953-52-7P,  
 4-Hydroxy-5-oxo-3-(1-oxopyridin-2-ylsulfanyl)-2-[(1-oxopyridin-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-53-8P,  
 4-Hydroxy-3-(4-methoxybenzylsulfanyl)-2-[(4-methoxybenzylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-54-9P,

4-Hydroxy-3-(5-nitro-1H-benzimidazol-2-ylsulfanyl)-2-((5-nitro-1H-benzimidazol-2-ylsulfanyl)methyl)-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**;

USES (Uses)

(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT 475293-89-1P

RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)

(intermediate; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT 577952-68-2P 657411-22-8P 657411-23-9P 657411-24-0P

**657411-25-1P** 657411-26-2P 657411-27-3P 657411-28-4P

657411-29-5P 657411-30-8P 657411-31-9P 657411-32-0P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**;

USES (Uses)

(preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT 70-18-8, L-Glutathione, reactions 70-23-5, Ethyl bromopyruvate  
106-45-6, 4-Methyl benzenethiol 583-39-1, 2-Mercaptobenzimidazole  
2349-67-9, 5-Amino-1,3,4-thiadiazole-2-thiol 3004-42-0,  
5-Phenyl-1,3,4-oxadiazole-2-thiol 3282-30-2, Trimethylacetyl chloride  
4556-23-4, 4-Mercaptopyridine 5331-91-9, 5-Chloro-2-  
mercaptobenzothiazole 6325-91-3, 2-Mercapto-5-nitrobenzimidazole  
7652-46-2 16691-43-3, 3-Amino-5-mercapto-1,2,4-triazole 37052-78-1,  
5-Methoxy-2-benzimidazolethiol 60853-81-8 62571-86-2, Captopril  
87314-49-6, 3,6-Dichloro-1,2-benzenedithiol 349445-19-8,  
3-(Benzothiazol-2-ylsulfanyl)-2-(oxo)propionic acid ethyl ester  
577952-77-3, 2,3-Bis(benzothiazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-  
dihydrofuran-2-carboxylic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

IT **577953-29-8P**

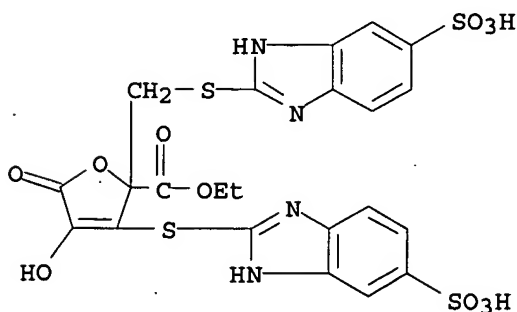
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**;

USES (Uses)

(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

RN 577953-29-8 HCAPLUS

CN 2-Furancarboxylic acid, 2,5-dihydro-4-hydroxy-5-oxo-3-[(5-sulfo-1H-benzimidazol-2-yl)thio]-2-[[5-sulfo-1H-benzimidazol-2-yl)thio]methyl]-, 2-ethyl ester (9CI) (CA INDEX NAME)



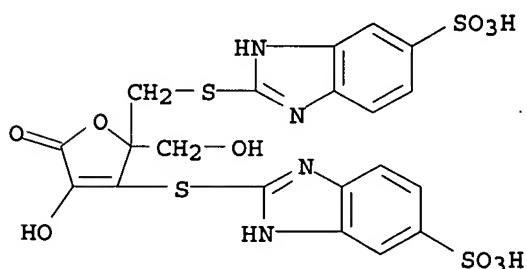
IT 657411-25-1P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of furanone cytoprotectants via aldol condensation for treatment of dermatol. conditions)

RN 657411-25-1 HCAPLUS

CN 1H-Benzimidazole-5-sulfonic acid, 2-[[[2,5-dihydro-4-hydroxy-2-(hydroxymethyl)-5-oxo-3-[(5-sulfo-1H-benzimidazol-2-yl)thio]-2-furanyl)methyl]thio]- (9CI) (CA INDEX NAME)



L15 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:26437 HCAPLUS

DN 141:282618

TI Amphiphilic cyclodextrin complexation of clofazimine

AU Schwinte, Pascale; Ramphul, Meera; Darcy, Raphael; O'Sullivan, John F.

CS University College Dublin, Centre for Synthesis and Chemical Biology, Conway Institute, Dept. Chemistry, National Univ. Ireland, Dublin, 4, Ire.

SO Journal of Inclusion Phenomena and Macrocyclic Chemistry (2003), 47(3-4), 109-112

CODEN: JIPCF5; ISSN: 1388-3127

PB Kluwer Academic Publishers

DT Journal

LA English

AB The cyclodextrin amphiphiles heptakis[6-(1'-sulfonato-3'-propyl)-6-thio-2,3-di-O-acetyl]-β-cyclodextrin, heptakis[6-(6' -sulfonato-2'-benzimidazolyl)-6-thio-2,3-di-O-acetyl]-β-cyclodextrin, and heptakis[6-(β-D-glucosyl)-6-thio-2,3-di-O-acetyl]-β-cyclodextrin have been shown to form aggregates in water by fluorescence measurements on the binding of 2-anilinonaphthalene, and by laser light-scattering measurements. Ests. of aggregation number have been obtained. These aggregates successfully incorporate clofazimine, a lipophilic heterocyclic drug, and increase its water solubility by a factor of 30 to 50.

CC 63-6 (Pharmaceuticals)

ST amphiphilic cyclodextrin aggregate complexation clofazimine soly drug delivery

IT Aggregates  
Amphiphiles  
Solubility

(amphiphilic cyclodextrin complexation of clofazimine for solubility increase)

IT Drug delivery systems

(inclusion complexes; amphiphilic cyclodextrin complexation of clofazimine for solubility increase)

IT 2030-63-9DP, Clofazimine, inclusion complexes with cyclodextrin



amphiphiles 7585-39-9DP,  $\beta$ -Cyclodextrin, reaction products with  
 clofazimine 760958-28-9DP, reaction products with clofazimine  
 760958-29-0DP, reaction products with clofazimine 760958-30-3DP,  
 reaction products with clofazimine

RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use);  
 BIOL (Biological study); **PREP (Preparation)**; USES (Uses)

(amphiphilic cyclodextrin complexation of clofazimine for solubility  
 increase)

IT 2030-63-9, Clofazimine 7585-39-9,  $\beta$ -Cyclodextrin 760958-28-9  
 760958-29-0 760958-30-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(amphiphilic cyclodextrin complexation of clofazimine for solubility  
 increase)

IT 760958-29-0DP, reaction products with clofazimine

RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use);  
 BIOL (Biological study); **PREP (Preparation)**; USES (Uses)

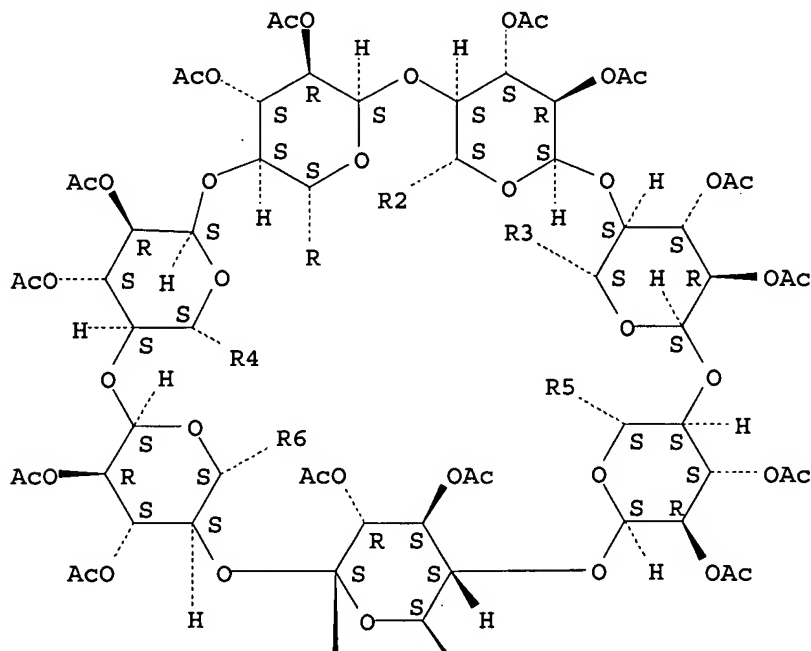
(amphiphilic cyclodextrin complexation of clofazimine for solubility  
 increase)

RN 760958-29-0 HCAPLUS

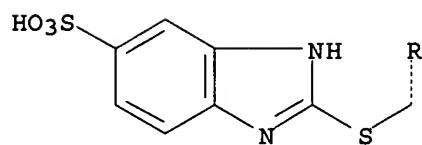
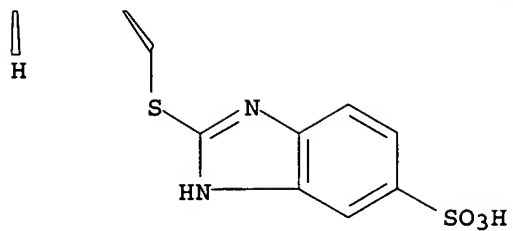
CN  $\beta$ -Cyclodextrin, 6A, 6B, 6C, 6D, 6E, 6F, 6G-heptakis-S-(5-sulfo-1H-  
 benzimidazol-2-yl)-6A, 6B, 6C, 6D, 6E, 6F, 6G-heptathio-, tetradecaacetate,  
 heptasodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

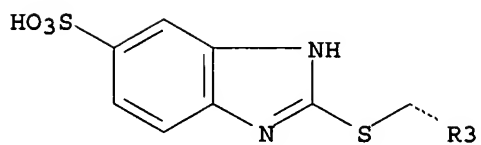
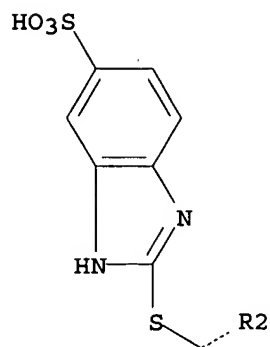
PAGE 1-A



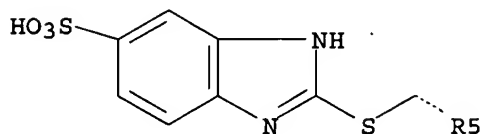
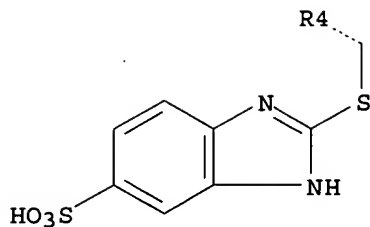
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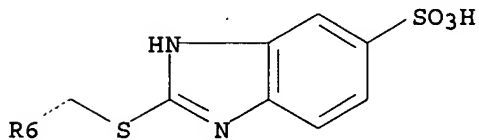
PAGE 3-A



PAGE 4-A



PAGE 5-A



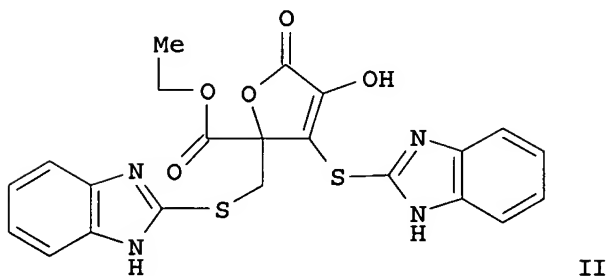
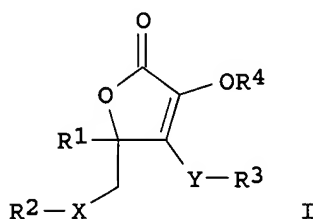
● 7 Na

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 5 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2003:610432 HCAPLUS  
DN 139:179965  
TI Preparation of furanones as cytoprotectants for neuroinflammation and  
neurodegenerative disorders  
IN Wang, Bing; Zhang, Wei; Song, Jiangao; Del Balzo, Ughetta; Brown, Lesley;  
Walkinshaw, Gail  
PA Galileo Laboratories, Inc., USA  
SO PCT Int. Appl., 89 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2003064403	A1	20030807	WO 2003-US2766	20030130
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,				
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,				
PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,				

UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,  
 KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,  
 FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF,  
 BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  
 EP 1478634 A1 20041124 EP 2003-705988 20030130  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK  
 PRAI US 2002-353939P P 20020131  
 WO 2003-US2766 W 20030130  
 OS MARPAT 139:179965  
 GI



AB Title compds. I [wherein R1 = CO2R', CONR'R'', CH2OR''', CN, (un)substituted heterocyclyl, heterocyclylalkyl, heteroaryl, heteroaralkyl; R2, R3 = independently (un)substituted alkyl, cycloalkyl, aryl, aralkyl, heterocyclyl, heteroaryl, heteroaralkyl, nucleoside, amino acid, di-, tri- or tetra-peptide; R4 = H, alkyl, alkylcarbonyl, (poly)alkoxyalkylene, dialkoxyphosphoryloxy; X = alkylene, NR', S, SO, SO2; or XR2 = PO(OR')2; Y = NR', S, SO, SO2; or YR3 = PO(OR')2; or XR2YR3 = (un)substituted aliphatic or aromatic ring; R' = H, alkenyl, (un)substituted alkyl, cycloalkyl, phosphoryl, aryl; R'' = H, alkenyl, (un)substituted alkyl, aryl; or R'R'' = atoms that form (un)substituted 5-7 membered aryl, heteroaryl ring; R''' = H, alkenyl, (un)substituted alkyl, acyl, cycloalkyl, phosphoryl, aryl; with the proviso that the compound is not 4-hydroxy-3-methanysulfonyl-2-methanysulfonylmethyl-5-oxo-2,5-dihydrofuran-2-carboxylic acid Et ester; and further with the proviso that when X = alkylene, R2 ≠ (un)substituted alkyl; and their single tautomers, single stereoisomers, mixts. of tautomers and/or stereoisomers, and pharmaceutically acceptable salts] were prepared as cytoprotectants for neuroinflammation and neurodegenerative disorders. For example, II was prepared by reaction of 2-mercaptobenzimidazole with Et bromopyruvate in ethanol/acetone and aldol condensation of the two tautomeric forms of the pyruvate intermediate. Selected invention compds. showed significant

reduction in edema in assays assessing mouse ear inflammatory response to topical arachidonic acid (10% to 70%,  $p < 0.05$ ). Results from neuronal cell stress assay, myocyte calcium-contraction assay, and rat middle cerebral artery occlusion model were disclosed for selected invention compounds. Thus, I and their pharmaceutical formulations are useful in the treatment of stroke, cerebral ischemia, myocardial infarction, myocardial ischemia, chronic heart failure, inflammation and other oxidative stress-related conditions, and Alzheimer's disease and senile dementia (no data).

- IC ICM C07D305-12
- ICS C07D235-04; A61K031-34; A61K031-415
- CC 27-6 (Heterocyclic Compounds (One Hetero Atom))  
Section cross-reference(s): 1, 34, 63
- ST furanone prepn cytoprotectant neuroinflammation neurodegenerative stroke  
myocardia formulation cardioprotectant
- IT Ischemia  
(cardiac, myocardial; preparation of furanone cytoprotectants via aldol  
condensation for treatment of neuroinflammation and neurodegenerative  
disorders)
- IT Cytoprotective agents  
(cardioprotective; preparation of furanone cytoprotectants via aldol  
condensation for treatment of neuroinflammation and neurodegenerative  
disorders)
- IT Edema  
Ischemia  
(cerebral; preparation of furanone cytoprotectants via aldol condensation  
for treatment of neuroinflammation and neurodegenerative disorders)
- IT Mental disorder  
(cognitive, post-surgical; preparation of furanone cytoprotectants via aldol  
condensation for treatment of neuroinflammation and neurodegenerative  
disorders)
- IT Nervous system, disease  
(degeneration; preparation of furanone cytoprotectants via aldol  
condensation for treatment of neuroinflammation and neurodegenerative  
disorders)
- IT Cognition  
(disorder, post-surgical; preparation of furanone cytoprotectants via aldol  
condensation for treatment of neuroinflammation and neurodegenerative  
disorders)
- IT Brain, disease  
(edema; preparation of furanone cytoprotectants via aldol condensation for  
treatment of neuroinflammation and neurodegenerative disorders)
- IT Heart, disease  
(failure, chronic; preparation of furanone cytoprotectants via aldol  
condensation for treatment of neuroinflammation and neurodegenerative  
disorders)
- IT Heart, disease  
(failure; preparation of furanone cytoprotectants via aldol condensation for  
treatment of neuroinflammation and neurodegenerative disorders)
- IT Injury  
(head; preparation of furanone cytoprotectants via aldol condensation for  
treatment of neuroinflammation and neurodegenerative disorders)
- IT Brain, disease  
Heart, disease  
(infarction; preparation of furanone cytoprotectants via aldol condensation  
for treatment of neuroinflammation and neurodegenerative disorders)
- IT Head, disease  
Spinal cord, disease  
(injury; preparation of furanone cytoprotectants via aldol condensation for  
treatment of neuroinflammation and neurodegenerative disorders)

- IT Heart, disease  
(ischemia, myocardial; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
- IT Brain, disease  
(ischemia; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
- IT Inflammation  
(neurogenic; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
- IT Cytoprotective agents  
(neuroprotective; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
- IT Nerve, disease  
(peripheral neuropathy; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
- IT Alzheimer's disease  
Anti-Alzheimer's agents  
Anti-inflammatory agents  
Anti-ischemic agents  
Autoimmune disease  
Cytoprotective agents  
Drug delivery systems  
Edema  
Immunomodulators  
Oxidative stress, biological  
(preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
- IT Interleukin 1 $\beta$   
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
- IT Eye, disease  
(retinal ischemia; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
- IT Ischemia  
(retinal; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
- IT Mental disorder  
(senile psychosis; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
- IT Injury  
(spinal cord; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
- IT Brain, disease  
(stroke; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
- IT Injury  
(trauma, surgical; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)
- IT 577952-58-0P 577952-60-4P 577952-61-5P  
RL: PAC (Pharmacological activity); PEP (Physical, engineering or chemical process); PYP (Physical process); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT 577952-47-7P 577952-51-3P 577952-69-3P 577952-70-6P 577952-71-7P  
577952-97-7P

RL: PAC (Pharmacological activity); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT 577952-57-9P 577952-80-8P, 4-Hydroxy-5-oxo-3-(2-furanylmethylsulfanyl)-2-[(2-furanylmethylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-84-2P, 4-(1H-Benzimidazol-2-ylsulfanyl)-5-[(1H-benzimidazol-2-ylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one

RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT 577952-48-8P, 3-(3-Amino-[1,2,4]thiadiazol-5-ylsulfanyl)-2-(((3-amino-[1,2,4]thiadiazol-5-yl)sulfanyl)methyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-49-9P, 3-(3-Amino-[1,2,4]thiadiazol-5-ylsulfanyl)-2-(((3-amino-[1,2,4]thiadiazol-5-yl)sulfanyl)methyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester, trimethylamine salt 577952-50-2P, 3-((5-Amino-2H-[1,2,4]triazol-3-yl)sulfanyl)-2-(((5-amino-2H-[1,2,4]triazol-3-yl)sulfanyl)methyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-52-4P, 4-Hydroxy-5-oxo-3-(5-phenyl-[1,3,4]oxadiazol-2-ylsulfanyl)-2-(5-phenyl-[1,3,4]oxadiazol-2-ylsulfanylmethyl)-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-53-5P, 3-(5-Chlorobenzothiazol-2-ylsulfanyl)-2-[(5-chlorobenzothiazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-54-6P, 4-Hydroxy-3-(5-methoxy-1H-benzimidazol-2-ylsulfanyl)-2-[(5-methoxy-1H-benzimidazol-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-55-7P, 4-Hydroxy-5-oxo-3-(p-tolylsulfanyl)-2-(p-tolylsulfanylmethyl)-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-56-8P 577952-62-6P 577952-63-7P 577952-64-8P 577952-65-9P 577952-66-0P 577952-67-1P 577952-72-8P 577952-73-9P, 4-Hydroxy-5-oxo-3-(pyridin-4-ylsulfanyl)-2-[(pyridin-4-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-74-0P, 5,8-Dichloro-3-hydroxy-2-oxo-2H-1-oxa-4,9-dithiabenzof[azulene]-10a-carboxylic acid ethyl ester 577952-75-1P, 3-(1H-Benzimidazol-2-ylsulfanyl)-2-[(1H-benzimidazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid 577952-76-2P, 3-(Benzothiazol-2-ylsulfanyl)-2-[(benzothiazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid (2-hydroxyethyl)amide 577952-78-4P, 3-(Benzothiazol-2-ylsulfanyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid 577952-79-5P, 4-(Furan-2-ylmethylsulfanyl)-5-[(furan-2-ylmethylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one 577952-81-9P, 4-(2,2-Dimethylpropionyloxy)-3-(furan-2-ylmethylsulfanyl)-2-[(furan-2-ylmethylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-82-0P 577952-83-1P 577952-85-3P, 4-(1H-Benzimidazol-2-ylsulfanyl)-5-[(1H-benzimidazol-2-ylsulfanyl)methyl]-3-hydroxy-5-(thiazol-2-yl)-5H-furan-2-one 577952-86-4P, 3-(Benzothiazol-2-ylsulfanyl)-2-[(benzothiazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid 577952-87-5P, 3-(2-Chloro-4-fluorophenylsulfanyl)-2-[(2-chloro-4-fluorophenylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic

acid ethyl ester 577952-88-6P 577952-89-7P, 4-(Benzoxazol-2-ylsulfanyl)-5-[(benzoxazol-2-ylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one 577952-90-0P, 4-(5-Chlorobenzothiazol-2-ylsulfanyl)-5-[(5-chlorobenzothiazol-2-ylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one 577952-91-1P, 4-(Benzothiazol-2-ylsulfanyl)-5-[(benzothiazol-2-ylsulfanyl)methyl]-3-hydroxy-5-hydroxymethyl-5H-furan-2-one 577952-92-2P, 3-(2-Chloro-6-fluorobenzylsulfanyl)-2-[(2-chloro-6-fluorobenzylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-93-3P, 3-(5,6-Dichloro-1H-benzimidazol-2-ylsulfanyl)-2-[(5,6-dichloro-1H-benzimidazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-94-4P, 4-Hydroxy-3-(5-methoxybenzothiazol-2-ylsulfanyl)-2-[(5-methoxybenzothiazol-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-95-5P, 3-(2,4-Dichlorobenzylsulfanyl)-2-[(2,4-dichlorobenzylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-96-6P, 2-[(Benzothiazol-2-ylsulfanyl)methyl]-3-(benzothiazol-2-ylsulfanyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-98-8P, 4-Hydroxy-3-(6-nitrobenzothiazol-2-ylsulfanyl)-2-[(6-nitrobenzothiazol-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577952-99-9P, 2-[(1H-Benzimidazol-2-ylsulfanyl)methyl]-4-ethoxy-3-(1-ethyl-1H-benzimidazol-2-ylsulfanyl)-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-00-5P, 3-[Furan-2-ylmethanesulfinyl]-2-[(furan-2-ylmethanesulfinyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-01-6P, 2-[(Furan-2-ylmethanesulfinyl)methyl]-3-(furan-2-ylmethanesulfonyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-02-7P, 4-Hydroxy-3-methylsulfanyl-2-methylsulfanylmethyl-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-03-8P, 3-(5-Amino-[1,3,4]thiadiazol-2-ylsulfanyl)-2-[(5-amino-[1,3,4]thiadiazol-2-yl)sulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid 577953-04-9P, 3-(Benzoxazol-2-ylsulfanyl)-2-[(benzothiazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid methyl ester 577953-05-0P 577953-06-1P 577953-07-2P, 3-(Furan-2-ylmethylsulfanyl)-2-[(furan-2-ylmethylsulfanyl)methyl]-4-isobutanoyloxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-08-3P, 4-(2,2-Dimethylpropanoyloxy)-3-ethoxycarbonylmethylsulfanyl-2-[(ethoxycarbonylmethylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-09-4P, 4-Hydroxy-5-oxo-3-(4-phenylthiazol-2-ylsulfanyl)-2-[(4-phenylthiazol-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-10-7P, 3-(2-Dimethylaminoethylsulfanyl)-2-[(2-dimethylaminoethylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid 577953-11-8P, 4-Hydroxy-3-[(1-methyl-1H-imidazol-2-yl)sulfanyl]-2-[(1-methyl-1H-imidazol-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-12-9P, 3-Cyclopentylsulfanyl-2-cyclopentylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-13-0P, 3-Butylsulfanyl-2-butylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-14-1P, 4-Hydroxy-3-isobutylsulfanyl-2-isobutylsulfanylmethyl-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-15-2P, 4-Hydroxy-3-(naphthalen-2-ylsulfanyl)-2-[(naphthalen-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-16-3P, 4-Hydroxy-5-oxo-3-[(1-phenyl-1H-tetrazol-5-yl)sulfanyl]-2-[(1-phenyl-1H-tetrazol-5-yl)sulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-17-4P, 4-Hydroxy-5-oxo-3-[(5-phenyl-2H-[1,2,4]triazol-3-yl)sulfanyl]-2-[(5-phenyl-2H-[1,2,4]triazol-3-yl)sulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-18-5P, 4-Hydroxy-5-oxo-3-(thiazol-2-ylsulfanyl)-2-[(thiazol-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-19-6P, 3-Benzylsulfanyl-2-benzylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-20-9P,



4-Hydroxy-3-(4-methoxyphenylsulfanyl)-2-[(4-methoxyphenylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-21-0P,  
 3-(2-Chlorophenylsulfanyl)-2-[(2-chlorophenylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-22-1P,  
 3-(Benzothiazol-2-ylsulfanyl)-2-[(benzothiazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-23-2P,  
 3-(Benzoxazol-2-ylsulfanyl)-2-[(benzoxazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-24-3P,  
 4-Hydroxy-5-oxo-3-(4-trifluoromethylpyrimidin-2-ylsulfanyl)-2-[(4-trifluoromethylpyrimidin-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-25-4P,  
 4-Hydroxy-3-(4-methylpyrimidin-2-ylsulfanyl)-2-[(4-methylpyrimidin-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-26-5P,  
 4-Hydroxy-5-oxo-3-(pyrimidin-2-ylsulfanyl)-2-[(pyrimidin-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-27-6P,  
 4-Hydroxy-5-oxo-3-(2-sulfo-ethylsulfanyl)-2-[(2-sulfo-ethylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-28-7P,  
 4-Hydroxy-5-oxo-3-(7-trifluoromethylquinolin-4-ylsulfanyl)-2-[(7-trifluoromethylquinolin-4-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-29-8P 577953-30-1P  
 577953-31-2P, 3-Cyclohexylsulfanyl-2-cyclohexylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-32-3P,  
 4-(Benzothiazol-2-ylsulfanyl)-5-benzoyl-3-hydroxy-5H-furan-2-one 577953-33-4P,  
 3-(1H-Benzimidazol-2-ylsulfanyl)-4-hydroxy-5-oxo-5H-furan-2,2-dicarboxylic acid diethyl ester 577953-34-5P,  
 5-Acetyl-4-(benzothiazol-2-ylsulfanyl)-3-hydroxy-5H-furan-2-one 577953-35-6P,  
 3-Benzylsulfanyl-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-36-7P,  
 4-Hydroxy-3-(5-methyl-1H-benzimidazol-2-ylsulfanyl)-5-oxo-2,5-dihydrofuran-2-carboxylic acid 2-isopropyl-5-methylcyclohexyl ester 577953-37-8P 577953-38-9P,  
 3-(Benzoselenazol-2-ylsulfanyl)-2-[(benzoselenazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-39-0P,  
 4-Hydroxy-5-oxo-3-(4-phenylthiazol-2-ylsulfanyl)-2,5-dihydrofuran-2-carboxylic acid 577953-40-3P 577953-41-4P,  
 4-Hydroxy-5-oxo-3-(9H-purin-6-ylsulfanyl)-2-[(9H-purin-6-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-42-5P 577953-43-6P,  
 4-Hydroxy-3-(1H-imidazol-2-ylsulfanyl)-2-[(1H-imidazol-2-ylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-44-7P,  
 3-(2-Diethylaminoethylsulfanyl)-2-[(2-diethylaminoethylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-45-8P,  
 3-(1H-Benzimidazol-2-ylsulfanyl)-2-[(1H-benzimidazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid methyl ester 577953-46-9P,  
 3-(2-Dimethylaminoethylsulfanyl)-2-[(2-dimethylaminoethylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester hydrochloride 577953-47-0P,  
 4-Hydroxy-3-(2-methoxycarbonyl-ethylsulfanyl)-2-[(2-methoxycarbonyl-ethylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-48-1P,  
 4-Hydroxy-3-(methoxycarbonylmethylsulfanyl)-2-[(methoxycarbonylmethylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-49-2P,  
 3-(5-Amino-[1,3,4]thiadiazol-2-ylsulfanyl)-2-[(5-amino-[1,3,4]thiadiazol-2-yl)sulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-50-5P,  
 3-(1H-Benzimidazol-2-ylsulfanyl)-2-[(1H-benzimidazol-2-ylsulfanyl)methyl]-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-51-6P,  
 3-(4-Fluorobenzylsulfanyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2,2-dicarboxylic acid diethyl ester 577953-52-7P,  
 4-Hydroxy-5-oxo-3-(1-oxopyridin-2-ylsulfanyl)-2-[(1-oxopyridin-2-ylsulfanyl)methyl]-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-53-8P,  
 4-Hydroxy-3-(4-methoxybenzylsulfanyl)-2-[(4-methoxybenzylsulfanyl)methyl]-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester 577953-54-9P,

4-Hydroxy-3-(5-nitro-1H-benzimidazol-2-ylsulfanyl)-2-((5-nitro-1H-benzimidazol-2-ylsulfanyl)methyl)-5-oxo-2,5-dihydrofuran-2-carboxylic acid ethyl ester

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation);

USES (Uses)

(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT 475293-89-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT 70-18-8, L-Glutathione, reactions 70-23-5, Ethyl bromopyruvate 106-45-6, 4-Methyl benzenethiol 583-39-1, 2-Mercaptobenzimidazole 2349-67-9, 5-Amino-1,3,4-thiadiazole-2-thiol 3004-42-0, 5-Phenyl-1,3,4-oxadiazole-2-thiol 3282-30-2, Trimethylacetyl chloride 4556-23-4, 4-Mercaptopyridine 5331-91-9, 5-Chloro-2-mercaptobenzothiazole 6325-91-3, 2-Mercapto-5-nitrobenzimidazole 7652-46-2 16691-43-3, 3-Amino-5-mercapto-1,2,4-triazole 37052-78-1, 5-Methoxy-2-benzimidazolethiol 60853-81-8 62571-86-2, Captopril 87314-49-6, 3,6-Dichloro-1,2-benzenedithiol 349445-19-8, 3-(Benzothiazol-2-ylsulfanyl)-2-(oxo)propionic acid ethyl ester 577952-77-3, 2,3-Bis(benzothiazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydrofuran-2-carboxylic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

IT 577953-29-8P

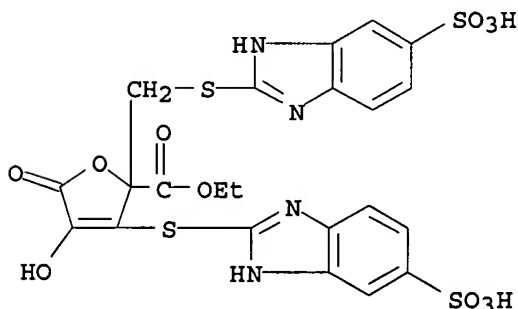
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation);

USES (Uses)

(cytoprotective agent; preparation of furanone cytoprotectants via aldol condensation for treatment of neuroinflammation and neurodegenerative disorders)

RN 577953-29-8 HCAPLUS

CN 2-Furancarboxylic acid, 2,5-dihydro-4-hydroxy-5-oxo-3-[(5-sulfo-1H-benzimidazol-2-yl)thio]-2-[[[(5-sulfo-1H-benzimidazol-2-yl)thio]methyl]-, 2-ethyl ester (9CI) (CA INDEX NAME)



RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 6 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

AN 2003:43045 HCAPLUS  
 DN 138:89499  
 TI Preparation of pyruvate derivatives for treating conditions characterized by oxidative stress  
 IN Wang, Bing; Miller, Guy; Zhang, Wei; Janagani, Satyanarayana; Song, Jiangao  
 PA USA  
 SO U.S. Pat. Appl. Publ., 54 pp.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003013847	A1	20030116	US 2002-138937	20020503
	US 2003100750	A1	20030529	US 2002-138032	20020503
	US 6608196	B2	20030819		
PRAI	US 2001-288649P	P	20010503		
	US 2001-295314P	P	20010601		
	US 2002-368456P	P	20020323		

OS MARPAT 138:89499

AB Pyruvate derivs. A-X-CH<sub>2</sub>COCO-Z and A-X-CH:C(OH)CO-Z [A = substituted alkyl or heteroaryl, heterocyclyl, (un)substituted nucleoside, di-, tri- or tetrapeptide, CH<sub>2</sub>COCO<sub>2</sub>R', or CH:C(OH)CO<sub>2</sub>R', where R' = H, (un)substituted (cyclo)alkyl or aryl; X = NR', S, SO, SO<sub>2</sub>, S-Y-S [Y = (un)substituted aryl, heteroaryl, nucleoside, amino acid, di-, tri- or tetrapeptide], or a covalent bond to the sulfur atom of Cys or to the nitrogen atom of optionally substituted heterocyclyl; Z = OR or SR, where R = H, (un)substituted (cyclo)alkyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl, or heterocycloalkyl] or their pharmaceutically-acceptable salts were prepared for treating a number of conditions characterized by oxidative stress. Certain known and novel pyruvate derivs. are particularly active in restoring or preserving metabolic integrity in oxidatively competent cells that have been subjected to oxygen deprivation. Thus, S-[3-(pentyloxy)-2,3-dioxopropyl]glutathione was prepared by alkylation of glutathione. Compds. of the invention were evaluated as agents for protection against ischemic damage.

IC ICM C07K005-06

ICS C07C323-00; C07H019-16; C07H019-06; C07D293-10; C07D235-14

NCL 530330000; 530331000; 536027300; 536028400; 544162000; 544287000; 548121000; 548204000; 548304400; 548316400

CC 23-17 (Aliphatic Compounds)

Section cross-reference(s): 1, 34

ST peptide pyruvate prepn pharmaceutical oxidative stress

IT Heart, disease

(infarction; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Ischemia

(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Peptides, preparation

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 475294-13-4P

RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 27784-53-8P 73472-98-7P 114669-82-8P 349444-96-8P 349445-15-4P  
 475293-79-9P 475293-80-2P 475293-81-3P 475293-82-4P 475293-83-5P  
**475293-84-6P** 475293-85-7P 475293-86-8P 475293-87-9P  
 475293-88-0P 475293-89-1P 475293-90-4P 475293-91-5P 475293-92-6P  
 475293-93-7P 475293-94-8P 475293-95-9P 475293-96-0P 475293-97-1P  
 475293-98-2P 475293-99-3P 475294-00-9P 475294-01-0P 475294-02-1P  
 475294-03-2P 475294-04-3P 475294-05-4P 475294-06-5P 475294-07-6P  
 475294-08-7P 475294-09-8P 475294-10-1P 475294-11-2P 475294-12-3P  
 475294-14-5P 475294-15-6P 475294-16-7P 475294-17-8P 475294-18-9P  
 475294-19-0P 475294-20-3P 475294-21-4P 475294-22-5P 475294-23-6P  
 475294-24-7P 475294-25-8P 475294-26-9P 475294-27-0P 475294-28-1P  
 475294-29-2P 475294-30-5P 475294-31-6P 475294-32-7P 475294-33-8P  
 475294-34-9P 475294-35-0P 475294-36-1P 475294-37-2P 475294-38-3P  
 475294-39-4P 475294-40-7P 475294-41-8P 475294-42-9P 475294-43-0P  
 475294-44-1P 475294-45-2P 475294-46-3P 475294-47-4P 475294-48-5P  
 475294-49-6P 475294-60-1P 475294-63-4P 475294-64-5P 475294-65-6P  
 475294-66-7P 475294-67-8P 475294-68-9P 475294-69-0P 475294-70-3P  
 475294-71-4P 475294-72-5P 475294-73-6P 475294-74-7P 475294-75-8P  
 475294-76-9P 475294-77-0P 475294-78-1P 475294-79-2P 475294-80-5P  
 475294-81-6P 475294-82-7P 475557-24-5P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**;  
 USES (Uses)

(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 52-90-4, L Cysteine, reactions 60-56-0, 2-Mercapto-1-methylimidazole  
 70-18-8, Glutathione, reactions 70-23-5, Ethyl 3-bromopyruvate 85-31-4  
 96-27-5, 3 Mercapto 1 2 propanediol 96-41-3, Cyclopentanol 96-45-7,  
 2-Imidazolidinethione 110-89-4, Piperidine, reactions 112-30-1,  
 1-Decanol 583-39-1, 2 Mercaptobenzimidazole 770-71-8,  
 1-Adamantanemethanol 872-85-5, 4 Formylpyridine 1113-41-3,  
 L-Penicillamine 1113-59-3, 3-Bromopyruvic acid 1490-04-6, 2 Isopropyl  
 5 methylcyclohexanol 1953-02-2 2349-67-9, 5-Amino-1,3,4-thiadiazole-2-  
 thiol 3004-42-0, 5-Phenyl-1,3,4-oxadiazole-2-thiol 5331-91-9  
 5685-05-2, 2-Mercaptothiazole 6325-91-3, 2-Mercapto-5-nitrobenzimidazole  
 7776-34-3, L Proline, hydrochloride 10486-58-5, 2-  
 Mercaptobenzoselenazole 13906-09-7 16691-43-3, 3-Amino-5-mercapto-  
 1,2,4-triazole 19246-18-5 24748-68-3, 1H-Imidazole-4-thiol  
 27231-36-3, 2 Mercapto 5 methylbenzimidazole 29490-19-5,  
 5-Methyl-1,3,4-thiadiazole-2-thiol 37052-78-1 53918-03-9 92614-59-0  
 283159-88-6 475294-53-2

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 73472-94-3P 475294-50-9P 475294-51-0P 475294-52-1P 475294-54-3P  
 475294-55-4P 475294-57-6P 475294-58-7P 475294-59-8P

RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)

(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT **475293-84-6P**

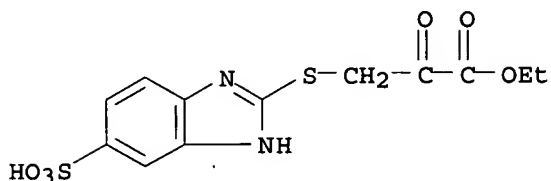
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**;  
 USES (Uses)

(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

RN 475293-84-6 HCAPLUS

CN Propanoic acid, 2-oxo-3-[(5-sulfo-1H-benzimidazol-2-yl)thio]-, 1-ethyl

ester, monosodium salt (9CI) (CA INDEX NAME)



● Na

L15 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:43044 HCAPLUS

DN 138:89500

TI Preparation of pyruvate derivatives for treating conditions characterized by oxidative stress

IN Wang, Bing; Miller, Guy; Janagani, Satyanarayana; Zhang, Wei

PA USA

SO U.S. Pat. Appl. Publ., 55 pp., Cont.-in-part of U. S Provisional Ser. No. 368,456.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003013846	A1	20030116	US 2002-138809	20020503
	US 2003100750	A1	20030529	US 2002-138032	20020503
	US 6608196	B2	20030819		
PRAI	US 2001-288649P	P	20010503		
	US 2001-295314P	P	20010601		
	US 2002-368456P	P	20020323		

OS MARPAT 138:89500

AB Pyruvate derivs. A-X-CH<sub>2</sub>C(:W)CONRbRc and A-X-CH:C(W)CONRbRc [A = (un)substituted (cyclo)alkyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl, heterocycloalkyl, nucleoside, amino acid, di-, tri- or tetrapeptide, CH<sub>2</sub>COCO<sub>2</sub>R', or CH:C(OH)CO<sub>2</sub>R', where R' = H, (un)substituted (cyclo)alkyl or aryl; X = S, SO, SO<sub>2</sub>, S-Y-S [Y = (un)substituted aryl, heteroaryl, nucleoside, amino acid, di, tri- or tetrapeptide], or a covalent bond to the sulfur atom of Cys or to the nitrogen atom of optionally substituted heterocyclyl; W = :O, :NORa, or N(OH)Rd; Ra = H, (un)substituted alkyl, aryl, aralkyl, or alkenyl; Rb = H, (un)substituted (cyclo)alkyl, aryl, or aralkyl; Rc = H or (un)substituted alkyl; or RbRcN = 5- to 7-membered heterocyclyl; Rd = H, acyl, or (un)substituted alkyl] or their pharmaceutically-acceptable salts were prepared for treating a number of conditions characterized by oxidative stress. Certain known and novel pyruvate derivs. are particularly active in restoring or preserving metabolic integrity in oxidatively competent cells that have been subjected to oxygen deprivation. Thus, S-[3-(4-methylpiperidino)-2,3-dioxopropyl]glutathione was prepared via alkylation of glutathione. Compds. of the invention were evaluated as agents for protection against ischemic damage.

IC ICM C07K005-06

ICS C07H019-16; C07H019-048; C07D279-12; C07D277-60

NCL 530330000; 530331000; 536027230; 536028100; 540544000; 540575000;  
540609000; 544059000; 544162000; 544402000

CC 23-18 (Aliphatic Compounds)  
Section cross-reference(s): 1, 34

ST peptide pyruvamide prepn pharmaceutical oxidative stress

IT Heart, disease  
(infarction; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Ischemia  
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Peptides, preparation  
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 475294-13-4P  
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 27784-53-8P 73472-98-7P 114669-82-8P 349444-96-8P 349445-15-4P  
475293-79-9P 475293-80-2P 475293-81-3P 475293-82-4P 475293-83-5P  
**475293-84-6P** 475293-85-7P 475293-86-8P 475293-87-9P  
475293-88-0P 475293-89-1P 475293-90-4P 475293-91-5P 475293-92-6P  
475293-93-7P 475293-94-8P 475293-95-9P 475293-96-0P 475293-97-1P  
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475294-03-2P 475294-04-3P 475294-05-4P 475294-06-5P 475294-07-6P  
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475294-39-4P 475294-40-7P 475294-41-8P 475294-42-9P 475294-43-0P  
475294-44-1P 475294-45-2P 475294-46-3P 475294-47-4P 475294-48-5P  
475294-49-6P 475294-60-1P 475294-63-4P 475294-64-5P 475294-65-6P  
475294-66-7P 475294-67-8P 475294-68-9P 475294-69-0P 475294-70-3P  
475294-71-4P 475294-72-5P 475294-73-6P 475294-74-7P 475294-75-8P  
475294-76-9P 475294-77-0P 475294-78-1P 475294-81-6P 475294-82-7P  
475557-24-5P  
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 52-90-4, L Cysteine, reactions 60-56-0, 2-Mercapto-1-methylimidazole  
70-18-8, Glutathione, reactions 70-23-5, Ethyl 3-bromopyruvate 85-31-4  
96-27-5, 3 Mercapto 1 2 propanediol 96-41-3, Cyclopentanol 96-45-7,  
2-Imidazolidinethione 110-89-4, Piperidine, reactions 112-30-1,  
1-Decanol 583-39-1, 2 Mercaptobenzimidazole 770-71-8,  
1-Adamantanemethanol 872-85-5, 4 Formylpyridine 1113-41-3,  
L-Penicillamine 1113-59-3, 3-Bromopyruvic acid 1490-04-6, 2 Isopropyl  
5 methylcyclohexanol 1953-02-2 2349-67-9, 5-Amino-1,3,4-thiadiazole-2-  
thiol 3004-42-0, 5-Phenyl-1,3,4-oxadiazole-2-thiol 5331-91-9  
5685-05-2, 2-Mercaptothiazole 6325-91-3, 2-Mercapto-5-nitrobenzimidazole  
7776-34-3, L Proline, hydrochloride 10486-58-5, 2-  
Mercaptobenzoselenazole 13906-09-7 16691-43-3, 3-Amino-5-mercapto-

1,2,4-triazole 19246-18-5 24748-68-3, 1H-Imidazole-4-thiol  
 27231-36-3, 2 Mercapto 5 methylbenzimidazole 29490-19-5,  
 5-Methyl-1,3,4-thiadiazole-2-thiol 37052-78-1 53918-03-9 92614-59-0  
 283159-88-6 475294-53-2

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 73472-94-3P 475294-50-9P 475294-51-0P 475294-52-1P 475294-54-3P  
 475294-55-4P 475294-57-6P 475294-58-7P 475294-59-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 475293-84-6P

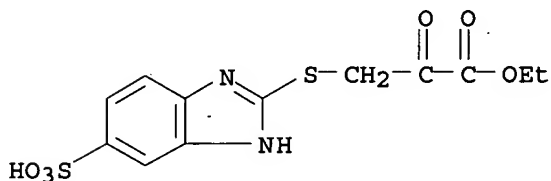
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation);

USES (Uses)

(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

RN 475293-84-6 HCAPLUS

CN Propanoic acid, 2-oxo-3-[(5-sulfo-1H-benzimidazol-2-yl)thio]-, 1-ethyl ester, monosodium salt (9CI) (CA INDEX NAME)



● Na

L15 ANSWER 8 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:43014 HCAPLUS

DN 138:73002

TI Preparation of pyruvate derivatives for treating conditions characterized by oxidative stress

IN Wang, Bing; Miller, Guy; Janagani, Satyanarayana

PA USA

SO U.S. Pat. Appl. Publ., 52 pp., Cont.-in-part of U. S. Provisional Ser. No. 368,456.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003013657	A1	20030116	US 2002-138938	20020503
	US 2003100750	A1	20030529	US 2002-138032	20020503
	US 6608196	B2	20030819		
PRAI	US 2001-288649P	P	20010503		
	US 2001-295314P	P	20010601		
	US 2002-368456P	P	20020323		
OS	MARPAT 138:73002				

AB Pyruvate derivs. A-X-CH<sub>2</sub>C(:NORa)CO-Z [A = (un)substituted (cyclo)alkyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl, heterocycloalkyl, nucleoside, amino acid, di-, tri- or tetrapeptide, CH<sub>2</sub>COC(=O)R', or CH:C(OH)CO<sub>2</sub>R', where R' = H, (un)substituted (cyclo)alkyl or aryl; X = S, SO, S-Y-S [Y = (un)substituted aryl, heteroaryl, nucleoside, amino acid, di-, tri- or tetrapeptide], or a covalent bond to the sulfur atom of Cys or to the nitrogen atom of optionally substituted heterocyclyl; Ra = H, (un)substituted alkyl, aryl, aralkyl, or alkenyl; Z = OR or SR, where R = (un)substituted (cyclo)alkyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl, or heterocycloalkyl], including tautomers, stereoisomers, and mixts. of these, and their pharmaceutically-acceptable salts, were prepared for treating a number of conditions characterized by oxidative stress. Certain known and novel pyruvate derivs. are particularly active in restoring or preserving metabolic integrity in oxidatively competent cells that have been subjected to oxygen deprivation. Thus, S-[3-ethoxy-2-(hydroxyimino)-3-oxopropyl]glutathione was prepared by alkylation of glutathione with 3-bromo-2-(hydroxyimino)propionic acid Et ester. Comps. of the invention were evaluated as agents for protection against ischemic damage.

IC ICM A61K038-08  
ICS A61K038-06; A61K031-7076; A61K031-7072; A61K031-44; A61K031-401; A61K031-198

NCL 514017000; 514018000; 514019000; 514045000; 514049000; 514357000; 514408000; 514513000; 514551000; 514564000

CC 23-18 (Aliphatic Compounds)  
Section cross-reference(s): 1, 34

ST peptide pyruvate oxime prepn pharmaceutical oxidative stress

IT Heart, disease  
(infarction; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Ischemia  
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Peptides, preparation  
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 475294-13-4P  
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 27784-53-8P 73472-98-7P 114669-82-8P 349444-96-8P 349445-15-4P  
475293-79-9P 475293-80-2P 475293-81-3P 475293-82-4P 475293-83-5P  
**475293-84-6P** 475293-85-7P 475293-86-8P 475293-87-9P  
475293-88-0P 475293-89-1P 475293-90-4P 475293-91-5P 475293-92-6P  
475293-93-7P 475293-94-8P 475293-95-9P 475293-96-0P 475293-97-1P  
475293-98-2P 475293-99-3P 475294-00-9P 475294-01-0P 475294-02-1P  
475294-03-2P 475294-04-3P 475294-05-4P 475294-06-5P 475294-07-6P  
475294-08-7P 475294-09-8P 475294-10-1P 475294-11-2P 475294-12-3P  
475294-14-5P 475294-15-6P 475294-16-7P 475294-17-8P 475294-18-9P  
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475294-44-1P 475294-45-2P 475294-46-3P 475294-47-4P 475294-48-5P



475294-49-6P 475294-60-1P 475294-63-4P 475294-64-5P 475294-65-6P  
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 475294-76-9P 475294-77-0P 475294-78-1P 475294-81-6P 475294-82-7P  
 475557-24-5P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU  
 (Therapeutic use); BIOL (Biological study); PREP (Preparation);  
 USES (Uses)

(preparation of pyruvate derivs., including peptide derivs., for treating  
 conditions characterized by oxidative stress)

IT 52-90-4, L Cysteine, reactions 60-56-0, 2-Mercapto-1-methylimidazole  
 70-18-8, Glutathione, reactions 70-23-5, Ethyl 3-bromopyruvate 85-31-4  
 96-27-5, 3 Mercapto 1 2 propanediol 96-41-3, Cyclopentanol 96-45-7,  
 2-Imidazolidinethione 110-89-4, Piperidine, reactions 112-30-1,  
 1-Decanol 583-39-1, 2 Mercaptobenzimidazole 770-71-8,  
 1-Adamantanemethanol 872-85-5, 4 Formylpyridine 1113-41-3,  
 L-Penicillamine 1113-59-3, 3-Bromopyruvic acid 1490-04-6, 2 Isopropyl  
 5 methylcyclohexanol 1953-02-2 2349-67-9, 5-Amino-1,3,4-thiadiazole-2-  
 thiol 3004-42-0, 5-Phenyl-1,3,4-oxadiazole-2-thiol 5331-91-9  
 5685-05-2, 2-Mercaptothiazole 6325-91-3, 2-Mercapto-5-nitrobenzimidazole  
 7776-34-3, L Proline, hydrochloride 10486-58-5, 2-  
 Mercaptobenzoselenazole 13906-09-7 16691-43-3, 3-Amino-5-mercapto-  
 1,2,4-triazole 19246-18-5 24748-68-3, 1H-Imidazole-4-thiol  
 27231-36-3, 2 Mercapto 5 methylbenzimidazole 29490-19-5,  
 5-Methyl-1,3,4-thiadiazole-2-thiol 37052-78-1 53918-03-9 92614-59-0  
 283159-88-6 475294-53-2

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of pyruvate derivs., including peptide derivs., for treating  
 conditions characterized by oxidative stress)

IT 73472-94-3P 475294-50-9P 475294-51-0P 475294-52-1P 475294-54-3P  
 475294-55-4P 475294-57-6P 475294-58-7P 475294-59-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)

(preparation of pyruvate derivs., including peptide derivs., for treating  
 conditions characterized by oxidative stress)

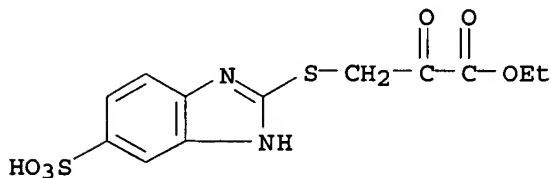
IT 475293-84-6P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU  
 (Therapeutic use); BIOL (Biological study); PREP (Preparation);  
 USES (Uses)

(preparation of pyruvate derivs., including peptide derivs., for treating  
 conditions characterized by oxidative stress)

RN 475293-84-6 HCAPLUS

CN Propanoic acid, 2-oxo-3-[(5-sulfo-1H-benzimidazol-2-yl)thio]-, 1-ethyl  
 ester, monosodium salt (9CI) (CA INDEX NAME)



● Na

L15 ANSWER 9 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:43013 HCAPLUS

DN 138:73001

TI Preparation of pyruvate derivatives for treating conditions characterized by oxidative stress

IN Wang, Bing; Miller, Guy; Flaim, Stephen F.; Del Balzo, Ughetta; Zhang, Wei; Janagani, Satyanarayana; Song, Jiagao

PA USA

SO U.S. Pat. Appl. Publ., 56 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003013656	A1	20030116	US 2002-138726	20020503
	US 2003100750	A1	20030529	US 2002-138032	20020503
	US 6608196	B2	20030819		
PRAI	US 2001-288649P	P	20010503		
	US 2001-295314P	P	20010601		
	US 2002-368456P	P	20020323		

OS MARPAT 138:73001

AB Pyruvate derivs. A-X-CH<sub>2</sub>C(:W)CO-Z and A-X-CH:C(W)CO-Z [A = (un)substituted (cyclo)alkyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl, heterocycloalkyl, nucleoside, amino acid, di-, tri- or tetrapeptide, CH<sub>2</sub>COCO<sub>2</sub>R', or CH:C(OH)CO<sub>2</sub>R', where R' = H, (un)substituted (cyclo)alkyl or aryl; X = NR', S, SO, SO<sub>2</sub>, S-Y-S [Y = (un)substituted aryl, heteroaryl, nucleoside, amino acid, di, tri- or tetrapeptide], or a covalent bond to the sulfur atom of Cys or to the nitrogen atom of optionally substituted heterocyclyl; W = :O, :NORa, :NNRbRc, or N(OH)Rd, where Ra = H, (un)substituted alkyl, aryl, aralkyl, or alkenyl; Rb = H, (un)substituted (cyclo)alkyl, aryl, or aralkyl; Rc = H or (un)substituted alkyl; or RbRcN = 5- to 7-membered heterocyclyl; Rd = H, acyl, or (un)substituted alkyl; Z = OR, SR, or NNRbRc, where R = (un)substituted (cyclo)alkyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl, or heterocycloalkyl] or their pharmaceutically-acceptable salts were prepared for treating a number of conditions characterized by oxidative stress. Certain known and novel pyruvate derivs. are particularly active in restoring or preserving metabolic integrity in oxidatively competent cells that have been subjected to oxygen deprivation. Thus, 2-amino-4-[1-(carboxymethylcarbamoyl)-2-[2-oxo-2-(pentylloxycarbonyl)ethylsulfanyl]ethyl carbamoyl]butyric acid (claimed compound) was prepared from 3-bromopyruvic acid, pentanol, and glutathione.

IC ICM A61K038-08

ICS A61K038-06; A61K031-7076; A61K031-7072; A61K031-198; A61K031-44; A61K031-40; A61K031-21

NCL 514017000; 514042000; 514045000; 514049000; 514357000; 514423000; 514513000; 514564000; 514626000

CC 23-18 (Aliphatic Compounds)

Section cross-reference(s): 1, 34

ST peptide pyruvate prepn pharmaceutical oxidative stress

IT Heart, disease

Lung, disease

(cardiopulmonary inflammatory disorder; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Movement disorders

(claudication; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Mental disorder

- (cognitive, post-surgical; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
- IT Nervous system, disease
  - (degeneration; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
- IT Mental disorder
  - (dementia; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
- IT Cognition
  - (disorder, post-surgical; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
- IT Heart, disease
  - (failure; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
- IT Muscle
  - (fatigue; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
- IT Injury
  - (head; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
- IT Heart, disease
  - (infarction; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
- IT Head, disease
  - Spinal cord, disease
    - (injury; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
- IT Nerve, disease
  - (peripheral neuropathy; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
- IT Ovarian cycle
  - (premenstrual syndrome; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
- IT Alzheimer's disease
  - Anti-inflammatory agents
  - Antiarthritics
  - Antiasthmatics
  - Antidiabetic agents
  - Antirheumatic agents
  - Asthma
  - Diabetes mellitus
  - Inflammation
  - Ischemia
  - Kidney, disease
  - Osteoarthritis
  - Parkinson's disease
  - Rheumatoid arthritis
  - Transplant and Transplantation
    - (preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
- IT Peptides, preparation
  - RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
    - (preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)
- IT Injury
  - (spinal cord; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Brain, disease  
(stroke; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Surgery  
(trauma; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 475294-13-4P  
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 27784-53-8P 73472-98-7P 114669-82-8P 349444-96-8P 349445-15-4P  
475293-79-9P 475293-80-2P 475293-81-3P 475293-82-4P 475293-83-5P  
**475293-84-6P** 475293-85-7P 475293-86-8P 475293-87-9P  
475293-88-0P 475293-89-1P 475293-90-4P 475293-91-5P 475293-92-6P  
475293-93-7P 475293-94-8P 475293-95-9P 475293-96-0P 475293-97-1P  
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475294-14-5P 475294-15-6P 475294-16-7P 475294-17-8P 475294-18-9P  
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475294-24-7P 475294-25-8P 475294-26-9P 475294-27-0P 475294-28-1P  
475294-29-2P 475294-30-5P 475294-31-6P 475294-32-7P 475294-33-8P  
475294-34-9P 475294-35-0P 475294-36-1P 475294-37-2P 475294-38-3P  
475294-39-4P 475294-40-7P 475294-41-8P 475294-42-9P 475294-43-0P  
475294-44-1P 475294-45-2P 475294-46-3P 475294-47-4P 475294-48-5P  
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475294-66-7P 475294-67-8P 475294-68-9P 475294-69-0P 475294-70-3P  
475294-71-4P 475294-72-5P 475294-73-6P 475294-74-7P 475294-75-8P  
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475557-24-5P  
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 52-90-4, L Cysteine, reactions 60-56-0, 2-Mercapto-1-methylimidazole  
70-18-8, Glutathione, reactions 70-23-5, Ethyl 3-bromopyruvate 85-31-4  
96-27-5, 3 Mercapto 1 2 propanediol 96-41-3, Cyclopentanol 96-45-7,  
2-Imidazolidinethione 110-89-4, Piperidine, reactions 112-30-1,  
1-Decanol 583-39-1, 2 Mercaptobenzimidazole 770-71-8,  
1-Adamantanemethanol 872-85-5, 4 Formylpyridine 1113-41-3,  
L-Penicillamine 1113-59-3, 3-Bromopyruvic acid 1490-04-6, 2 Isopropyl  
5 methylcyclohexanol 1953-02-2 2349-67-9, 5-Amino-1,3,4-thiadiazole-2-  
thiol 3004-42-0, 5-Phenyl-1,3,4-oxadiazole-2-thiol 5331-91-9  
5685-05-2, 2-Mercaptothiazole 6325-91-3, 2-Mercapto-5-nitrobenzimidazole  
7776-34-3, L Proline, hydrochloride 10486-58-5, 2-  
Mercaptobenzoselenazole 13906-09-7 16691-43-3, 3-Amino-5-mercapto-  
1,2,4-triazole 19246-18-5 24748-68-3, 1H-Imidazole-4-thiol  
27231-36-3, 2 Mercapto 5 methylbenzimidazole 29490-19-5,  
5-Methyl-1,3,4-thiadiazole-2-thiol 37052-78-1 53918-03-9 92614-59-0  
283159-88-6 475294-53-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 73472-94-3P 475294-50-9P 475294-51-0P 475294-52-1P 475294-54-3P  
475294-55-4P 475294-57-6P 475294-58-7P 475294-59-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

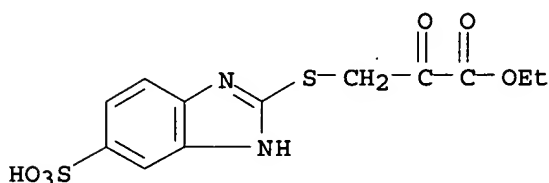
IT 475293-84-6P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**;  
USES (Uses)

(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

RN 475293-84-6 HCAPLUS

CN Propanoic acid, 2-oxo-3-[(5-sulfo-1H-benzimidazol-2-yl)thio]-, 1-ethyl ester, monosodium salt (9CI) (CA INDEX NAME)



● Na

L15 ANSWER 10 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:868895 HCAPLUS

DN 137:369738

TI Preparation of pyruvate derivatives for treating conditions characterized by oxidative stress

IN Wang, Bing; Miller, Guy; Flaim, Stephen F.; Del Balzo, Ughetta; Zhang, Wei; Janagani, Satyanarayana; Song, Jingao

PA Galileo Laboratories, Inc., USA

SO PCT Int. Appl., 143 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002090314	A1	20021114	WO 2002-US14057	20020503
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2003100750	A1	20030529	US 2002-138032	20020503
	US 6608196	B2	20030819		
	EP 1392639	A1	20040303	EP 2002-769325	20020503
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
PRAI	US 2001-288649P	P	20010503		
	US 2001-295314P	P	20010601		

US 2002-368456P P 20020323  
 WO 2002-US14057 W 20020503

OS MARPAT 137:369738

AB Pyruvate derivs. A-X-CH<sub>2</sub>C(:W)CO-Z and A-X-CH:C(W)CO-Z [A = (un)substituted (cyclo)alkyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl, heterocycloalkyl, nucleoside, amino acid, di-, tri- or tetrapeptide, CH<sub>2</sub>COCO<sub>2</sub>R', or CH:C(OH)CO<sub>2</sub>R', where R' = H, (un)substituted (cyclo)alkyl or aryl; X = NR', S, SO, SO<sub>2</sub>, S-Y-S [Y = (un)substituted aryl, heteroaryl, nucleoside, amino acid, di-, tri- or tetrapeptide], or a covalent bond to the sulfur atom of Cys or to the nitrogen atom of optionally substituted heterocyclyl; W = :O, :NORa, :NNRbRc, or N(OH)Rd, where Ra = H, (un)substituted alkyl, aryl, aralkyl, or alkenyl; Rb = H, (un)substituted (cyclo)alkyl, aryl, or aralkyl; Rc = H or (un)substituted alkyl; or RbRcN = 5- to 7-membered heterocyclyl; Rd = H, acyl, or (un)substituted alkyl; Z = OR, SR, or NRbRc, where R = (un)substituted (cyclo)alkyl, aryl, aralkyl, heteroaryl, heteroaralkyl, heterocyclyl, or heterocycloalkyl] or their pharmaceutically-acceptable salts were prepared for treating a number of conditions characterized by oxidative stress. Certain known and novel pyruvate derivs. are particularly active in restoring or preserving metabolic integrity in oxidatively competent cells that have been subjected to oxygen deprivation. Thus, 2-amino-4-[1-(carboxymethylcarbamoyl)-2-[2-oxo-2-(pentylloxycarbonyl)ethylsulfanyl]ethyl carbamoyl]butyric acid (claimed compound) was prepared from 3-bromopyruvic acid, pentanol, and glutathione.

IC ICM C07C069-66

ICS C07C323-60; C07D295-00; A61K031-12; A61K031-16; A61K031-215;  
 A61K031-223; A61P009-10

CC 23-18 (Aliphatic Compounds)

Section cross-reference(s): 1, 34

ST peptide pyruvate prepn pharmaceutical oxidative stress

IT Heart, disease

Lung, disease

(cardiopulmonary inflammatory disorder; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Movement disorders

(claudication; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Mental disorder

(cognitive, post-surgical; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Nervous system, disease

(degeneration; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Mental disorder

(dementia; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Cognition

(disorder, post-surgical; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Heart, disease

(failure; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Muscle

(fatigue; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Injury

(head; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Heart, disease  
(infarction; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Head, disease  
Spinal cord, disease  
(injury; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Nerve, disease  
(peripheral neuropathy; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Ovarian cycle  
(premenstrual syndrome; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Alzheimer's disease  
Anti-inflammatory agents  
Antiarthritics  
Antiasthmatics  
Antidiabetic agents  
Antirheumatic agents  
Asthma  
Diabetes mellitus  
Inflammation  
Ischemia  
Kidney, disease  
Osteoarthritis  
Parkinson's disease  
Rheumatoid arthritis  
Transplant and Transplantation  
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Peptides, preparation  
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Injury  
(spinal cord; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Brain, disease  
(stroke; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT Surgery  
(trauma; preparation of pyruvate derivs., including peptide derivs., for treating conditions characterized by oxidative stress)

IT 475294-13-4P  
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
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IT 27784-53-8P 73472-98-7P 114669-82-8P 349444-96-8P 349445-15-4P  
475293-79-9P 475293-80-2P 475293-81-3P 475293-82-4P 475293-83-5P  
**475293-84-6P** 475293-85-7P 475293-86-8P 475293-87-9P  
475293-88-0P 475293-89-1P 475293-90-4P 475293-91-5P 475293-92-6P  
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 475294-81-6P 475294-82-7P 475557-24-5P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU  
 (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**;  
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(preparation of pyruvate derivs., including peptide derivs., for treating  
 conditions characterized by oxidative stress)

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 70-18-8, Glutathione, reactions 70-23-5, Ethyl 3-bromopyruvate 85-31-4  
 96-27-5, 3 Mercapto 1 2 propanediol 96-41-3, Cyclopentanol 96-45-7,  
 2-Imidazolidinethione 110-89-4, Piperidine, reactions 112-30-1,  
 1-Decanol 583-39-1, 2 Mercaptobenzimidazole 770-71-8,  
 1-Adamantanemethanol 872-85-5, 4 Formylpyridine 1113-41-3,  
 L-Penicillamine 1113-59-3, 3-Bromopyruvic acid 1490-04-6, 2 Isopropyl  
 5 methylcyclohexanol 1953-02-2 2349-67-9, 5-Amino-1,3,4-thiadiazole-2-  
 thiol 3004-42-0, 5-Phenyl-1,3,4-oxadiazole-2-thiol 5331-91-9  
 5685-05-2, 2-Mercaptothiazole 6325-91-3, 2-Mercapto-5-nitrobenzimidazole  
 7776-34-3, L Proline, hydrochloride 10486-58-5, 2-  
 Mercaptobenzoselenazole 13906-09-7 16691-43-3, 3-Amino-5-mercapto-  
 1,2,4-triazole 19246-18-5 24748-68-3, 1H-Imidazole-4-thiol  
 27231-36-3, 2 Mercapto 5 methylbenzimidazole 29490-19-5,  
 5-Methyl-1,3,4-thiadiazole-2-thiol 37052-78-1 53918-03-9 92614-59-0  
 283159-88-6 475294-53-2

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(preparation of pyruvate derivs., including peptide derivs., for treating  
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 475294-55-4P 475294-57-6P 475294-58-7P 475294-59-8P

RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT  
 (Reactant or reagent)

(preparation of pyruvate derivs., including peptide derivs., for treating  
 conditions characterized by oxidative stress)

IT **475293-84-6P**

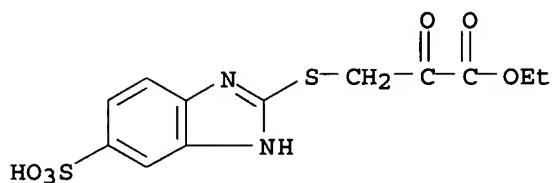
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU  
 (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**;  
 USES (Uses)

(preparation of pyruvate derivs., including peptide derivs., for treating  
 conditions characterized by oxidative stress)

RN 475293-84-6 HCAPLUS

CN Propanoic acid, 2-oxo-3-[(5-sulfo-1H-benzimidazol-2-yl)thio]-, 1-ethyl  
 ester, monosodium salt (9CI) (CA INDEX NAME)





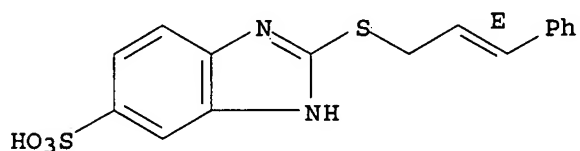
● Na

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 11 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2000:249217 HCAPLUS  
DN 133:135264  
TI Study on synthesis and their anticruzain activities of  
phenylallylthio-ether, sulfinyl and sulfonyl derivatives  
AU Ma, Hongmei; Cheng, Maosheng; Wang, Qinghe; Wang, Qianli; Pan, Li; Shen,  
Jianmin  
CS No.2 Lab. of Drug Synthesis, Shenyang Pharmaceutical Univ., Shenyang,  
110015, Peop. Rep. China  
SO Zhongguo Yaowu Huaxue Zazhi (2000), 10(1), 29-32  
CODEN: ZYHZEJ; ISSN: 1005-0108  
PB Zhongguo Yaowu Huaxue Zazhi Bianjibu  
DT Journal  
LA Chinese  
AB Twenty-one title compds. were prepared For example, reaction of  
2-mercapto-1H-benzimidazole with trans-3-chloro-1-phenylpropene in EtOH in  
the presence of K<sub>2</sub>CO<sub>3</sub> gave 53.0% 2-[trans-(1-phenylpropenyl)thio]-1H-  
benzimidazole. 2-[Trans-(1-phenylpropenyl)thio]-4,5-diphenyl-1H-  
benzimidazole showed in vitro cruzain inhibitor activity.  
CC 28-9 (Heterocyclic Compounds (More Than One Hetero Atom))  
Section cross-reference(s): 1, 7  
ST phenylallylthiobenzimidazole prepn anticruzain  
IT Trypanosoma cruzi  
(Chagas' disease from; synthesis and anticruzain activities of  
phenylallylthio ether derivs.)  
IT 37353-41-6, Cysteine protease  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL  
(Biological study); PROC (Process)  
(inhibitors; synthesis and anticruzain activities of phenylallylthio  
ether derivs.)  
IT 69747-26-8P 148527-96-2P 148527-98-4P 286963-32-4P 286963-34-6P  
286963-36-8P 286963-40-4P  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological  
study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL  
(Biological study); PREP (Preparation); RACT (Reactant or reagent)  
(synthesis and anticruzain activities of phenylallylthio ether derivs.)  
IT 156701-44-9P 286963-42-6P 286963-44-8P 286963-46-0P 286963-48-2P  
286963-50-6P 286963-51-7P 286963-53-9P 286963-55-1P 286963-57-3P  
286963-59-5P 286963-60-8P 286963-63-1P 286963-65-3P  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological  
study, unclassified); SPN (Synthetic preparation); BIOL (Biological  
study); PREP (Preparation)  
(synthesis and anticruzain activities of phenylallylthio ether derivs.)

IT 583-39-1 21087-29-6 53918-03-9  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (synthesis and anticruzain activities of phenylallylthio ether derivs.)  
 IT 286963-65-3P  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)  
 (synthesis and anticruzain activities of phenylallylthio ether derivs.)  
 RN 286963-65-3 HCAPLUS  
 CN 1H-Benzimidazole-5-sulfonic acid, 2-[[[(2E)-3-phenyl-2-propenyl]thio]-, monosodium salt (9CI) (CA INDEX NAME)

Double bond geometry as shown.

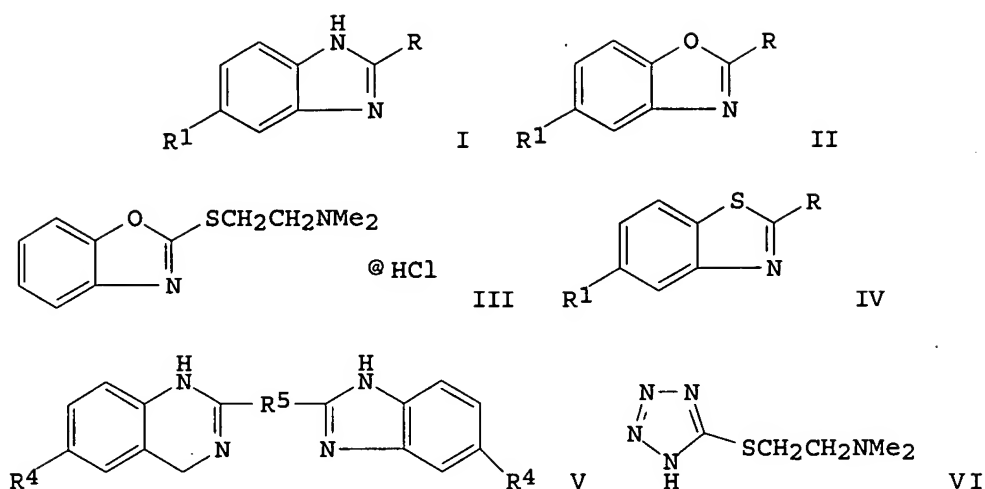


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L15 ANSWER 12 OF 12 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1984:94412 HCAPLUS  
 DN 100:94412  
 TI BENZAMIN: preparation and use as stabilizers in silver halide materials of bidentate heterocyclic compounds containing an amino group  
 AU Pollet, Robert; Sels, Francis  
 CS Agfa-Gevaert Naamloze Vennootschap, Neth.  
 SO Research Disclosure (1983), 236, 382-3 (No. 23630)  
 CODEN: RSDSBB; ISSN: 0374-4353  
 DT Journal; Patent  
 LA English

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RD 236030		19831210		
PRAI RD 1983-236030		19831210		

GI



- AB Photog. stabilizers and fog inhibitors which also increase sensitivity of Ag halide material comprise I (R = CH<sub>2</sub>NEt<sub>2</sub>, (CH<sub>2</sub>)<sub>5</sub>NH<sub>2</sub>, SCH<sub>2</sub>CH<sub>2</sub>R<sub>2</sub>R<sub>3</sub>, CH<sub>2</sub>SCH<sub>2</sub>CH<sub>2</sub>NMe<sub>2</sub>, where R<sub>2</sub>, R<sub>3</sub> = H, Me, Et or R<sub>2</sub> and R<sub>3</sub> combine to form 6-member ring containing O and N; R<sub>1</sub> = H, SO<sub>3</sub>Na), II, III, IV, V (R<sub>4</sub> = H, SO<sub>3</sub>H; R<sub>5</sub> = CH<sub>2</sub>N(Me)CH<sub>2</sub>, SCH<sub>2</sub>CH<sub>2</sub>N(Me)CH<sub>2</sub>CH<sub>2</sub>S) and VI. Thus, 22 g of compound I (R = SCH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>; R<sub>1</sub> = H) was prepared by adding dropwise a suspension containing 2-mercaptobenzimidazole 30, chloroethylamine chlorohydrate 23.2 g, EtOH (anhydrous) 1 L to a solution of Na 9.2 g in EtOH (anhydrous) 750 mL, refluxing the obtained mixture for 10 h, filtering off the formed NaCl, and treating the filtrate with borite following by concentration by evaporation
- CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST stabilizer fog inhibitor photog
- IT Photographic fog inhibitors  
Photographic stabilizers  
(bidentate heterocyclic compds. containing amino group as)
- IT 5805-58-3P 7673-89-4P 17124-80-0P 88580-45-4P  
88580-46-5P 88580-47-6P 88580-48-7P 88580-49-8P  
88580-50-1P 88580-51-2P  
RL: PREP (Preparation)  
(photog. stabilizer, preparation of)
- IT 583-39-1  
RL: USES (Uses)  
(reaction with chloroethylamine chlorohydrate in presence of sodium in alc. solution, in preparation of photog. stabilizing agents)
- IT 2382-96-9 58089-27-3  
RL: USES (Uses)  
(reaction with dimethylaminoethyl chloride chlorohydrate, in preparation of photog. stabilizer)
- IT 870-24-6 4584-46-7  
RL: USES (Uses)  
(reaction with mercaptobenzimidazole derivs., in preparation of photog. stabilizing agents)
- IT 3647-69-6  
RL: USES (Uses)  
(reaction with mercaptosulfobenzimidazole, in preparation of photog. stabilizer)
- IT 4857-04-9  
RL: USES (Uses)

(reaction with methylamine and dimethoxyethane, in preparation of photog. stabilizer)

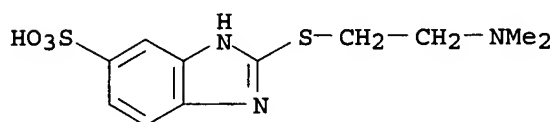
IT 88580-45-4P 88580-46-5P 88580-50-1P

RL: PREP (Preparation)

(photog. stabilizer, preparation of)

RN 88580-45-4 HCAPLUS

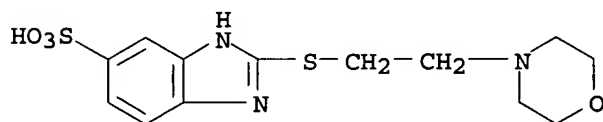
CN 1H-Benzimidazole-5-sulfonic acid, 2-[[2-(dimethylamino)ethyl]thio]-, monosodium salt (9CI) (CA INDEX NAME)



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RN 88580-46-5 HCAPLUS

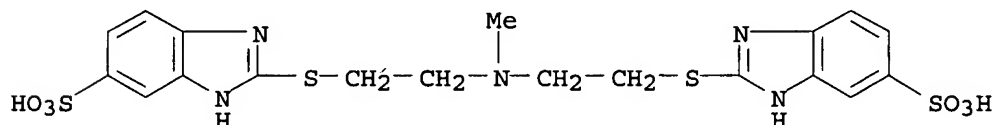
CN 1H-Benzimidazole-5-sulfonic acid, 2-[[2-(4-morpholinyl)ethyl]thio]-, monosodium salt (9CI) (CA INDEX NAME)



● Na

RN 88580-50-1 HCAPLUS

CN 1H-Benzimidazole-5-sulfonic acid, 2,2'-[(methylimino)bis(2,1-ethanediylthio)]bis- (9CI) (CA INDEX NAME)



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